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AMERICAN BEE JOURNAL

APRIL

1915



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American Bee Journal



PUBLISHED MONTHLY BY
American Bee Journal
1st Nat'l Bank Bldg. Hamilton, Illinois

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tubing	2.50	" " 36 "

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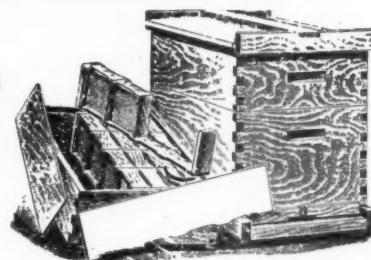
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All Brood and Extracting Frames Made from White Pine

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American Bee Journal

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I shall carry a full line of the A. I. Root Company's Goods, and my 1915 catalogs of Queen Bees and Supplies are now ready for distribution.

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I solicit your orders for Bees, Queens, Hives, Brood-frames, Foundation, Sections, Smokers, Brushes, Veils, etc.

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ROBERT G. COOMBS, Guilford, Vt.

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An "A B C" Catalog

You don't have to be an expert to understand it—gives instructions to beekeepers—two whole pages devoted to LEWIS SEC-TIONS—the subject on which all beekeepers can agree

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"We wish to congratulate you on the fine appearance of your new catalog. It is very complete and nicely arranged throughout."

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"Your catalog is wonderful indeed, and you deserve great credit for this piece of work. It can't be improved on."

"The catalog is indeed in keeping with the high quality of your beeware."

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G. B. LEWIS COMPANY

Manufacturers of Lewis Beeware

Watertown, Wisconsin



(Entered as second-class matter at the Post-office at Hamilton, Ill., under Act of March 3, 1879.)

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C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., APRIL, 1915

Vol. LV.—No. 4

EDITORIAL COMMENTS

International Congress of Bee-keepers

According to the Western Honey Bee the committee of the California State Beekeepers' Association has conceived the idea of organizing an International Beekeepers' Congress at San Francisco next fall, in September or October. Good! There ought to be no difficulty in getting a good attendance from all over the United States and Canada, and perhaps some visitors from foreign countries. We volunteer to do all we can to help it along.

British Columbia

In his report on the "Honey Production of British Columbia," Mr. F. Dundas Todd, inspector, estimates the total crop for 1914 at about 200 tons. The average per colony was about 55 pounds.

Campanilla Honey

We are in receipt, from Mr. D. W. Millar, of Holguin, Cuba, of an excellent sample of white honey, which he reports was harvested from the white campanula (blue bell or bellflower). It is very fine. Mr. Millar is a very active man, and is likely to make a success of his undertakings.

Winter Consumption

Page 54, column 3. Bees wintered in cellar will consume more after put out than those wintered out. I never heard that before. I wonder if it is true; and if so, why? C. C. M.

Evidently that is not true everywhere or Dr. Miller would have noticed it.

But we found it true at Hamilton Cellar-wintered bees breed very little previous to removal from the cellar, while the bees on summer stands begin breeding often as early as January. It is therefore indispensable for the cellar-wintered bees to hasten their breeding operations when taken out. The return to daylight has a tendency to do this. We ascribe the extra consumption to that cause.

This item was brought out at the Wisconsin meeting. If those who discussed it wish to express their views on this, we will gladly publish them.

C. P. D.

Dr. Phillips Made Vice-President of Entomologists

We read in "Science" that Dr. E. F. Phillips, the well-known head apiarist at the Bureau of Entomology in Washington, has been elected one of the vice-presidents of the American Association of Economic Entomologists. Dr. Phillips is worthy, if we judge by his devotion to the cause of apiculture.

Honey in Attic

Adrian Getaz says, page 63, that fall honey kept throughout the whole winter at a high temperature in "the little room in the attic" not only did not candy but ripened unusually well. That's quite true; and I want to carry it a little further. There are a good many attics, but probably not one in ten that can be kept as warm throughout the winter as the one mentioned. It is possible that that honey might have kept without candying if there

had been no heat in the attic in winter and indeed if there had been no heat but that from the sun in summer. Years ago, in Johnstown, Pa., my mother kept sections of honey in an attic that was freezing cold in winter but roasting hot in summer merely from the heat of the sun. The honey kept perfectly through the winter, the heat in the latter part of summer seeming to have ripened it for winter.

Mr. Getaz says: "I presume that where there is a furnace in the house, the furnace-room would be the best substitute for "the little room in the attic." The presumption is correct. Section honey has kept nicely beside the furnace in winter in my cellar. But in summer that same cellar is about the worst place I could keep it.

C. C. M.

Iowa Report Exhausted

Mr. Pellett informs us that the Iowa Inspector's Report is entirely exhausted except a few bound copies to be supplied to those members who remit 50 cents for their membership in the Iowa Beekeepers' Association.

The rapid demand is a testimonial to the value of the work.

Feeding Sugar Syrup

I have read what J. L. Byer says about fall feeding of sugar syrup, page 85, with much interest—read it more than once. J. L. Byer always seems to mix in some thinking with what he says, so that it is worth considering; and yet I could wish that we might have some more positive and definite knowledge on this whole subject; for I suppose the time is not likely to come soon when there will not be some for whom it will be a convenience to feed sugar syrup, provided it may be safely done.

No one will be likely to question

American Bee Journal

that there are places where at times the honey is very unwholesome for winter food; indeed, there may be places where it is always so. In such cases sugar syrup is surely the better winter food. But I suspect that cases of that kind are quite exceptional, and that in the great majority of cases bees will winter all right, so far as food is concerned, if allowed to gather their own stores.

I lay no small stress on the thought that honey is the natural food, the food universally supplied, and so there is little chance for mistake about its being best. I will be told that we can improve upon nature. Yes, so we can, at least in a certain way. Witness the latest flowers and fruit. But has there ever been a case in which the skill of man has gotten up a better food than that supplied by nature for a whole class of beings?

For many years able minds have been devoted to devising some substitute for the natural food of the young of the human family, and we are all familiar with the pictures of plump babies brought up on "What-you-call-him's Baby Food," yet in an able article in the March number of "Good Housekeeping," occurs this rather startling statement: "Statistics have shown that ten artificially fed babies die to one naturally fed." If that is so may it not well be questioned whether any substitute can be food for the production of vigorous baby-bees?

What is the difference between sugar and honey?

The sugar fed is cane sugar, and before it can be properly appropriated by the bees it must be inverted by them. Are we sure that such inversion is always completed? And if it is, is not the extra burden thus laid upon the

bees detrimental to their best interests?

There is another difference between sugar and honey that is perhaps not generally recognized, and yet which is probably greatly more important. In a German bee journal, Bztg. fuer Schleswig-Holstein, occurs this passage: "Besides invert sugar, honey contains pollen, ethereal oil, tannin, malate, tartrate, oxalate, and nitrate of potassa, several phosphates, manganese, natron, silica, sulphur, lime, iron. Hence sugar cannot replace honey. Sugar feeding is to blame that bees do not timely develop in spring. The colony reaches its strength only toward the end of the harvest. The bees reared upon sugar syrup in spring are not so effective as those reared in harvest."

If any one of these elements, however minute in quantity, be lacking in the food of the bees, it looks reasonable that not quite so fully developed a bee shall result. Since they are all absent in sugar syrup, what question can there be that bees reared thereon are lacking, perhaps greatly lacking in vigor and effectiveness? It may be said that sugar syrup is all right for winter food so long as it is used only as fuel to keep up heat. But who can gauge the feeding and have it so placed in the combs that it shall be certain that all of the syrup shall be used first and so be out of the way when brood-rearing begins, if indeed the amount be so limited that it is possible for it to be closed out before brood-rearing?

As a witness to the good results of sugar feeding, Mr. Byer subpoenas a man with hundreds of colonies, who for 15 years has managed to have his brood-nests in fall with very little honey, and then has fed each colony about 20 pounds of sugar or 30 pounds

of syrup, and he says: "I would like to take the two professors to these apiaries at any time of the year, and ask them to detect any kind of weakness in these bees, caused by the heavy sugar feeding," adding that this man *always* winters successfully, and that his crops are probably second to none. I have great faith in Mr. Byer, and would as soon trust his judgment as that of two professors. I cheerfully accept his statement that no kind of weakness would be at any time detected in the bees under consideration. And yet that is not fully convincing that said bees might not have done better if they had had good honey in place of sugar. I have many times known a colony with 20 percent more effectiveness than another colony in the same apiary, and I could detect no difference in the bees by the most careful inspection.

I have serious question whether two professors could tell by any sort of inspection whether there was any kind of weakness in an apiary, even though the effectiveness of the bees had been lessened considerably by the use of incomplete food. However great the success of the bees Mr. Byer puts upon the witness stand, it's up to him to prove that it might not have been just a bit greater—say 10 percent greater—if they had not at any time been subjected to a ration of incomplete food.

C. C. M.

Commendable Work

We herewith give a picture of the Geneva Red Cross Prisoners' Agency, organized in Switzerland, with the 1200 voluntary helpers in charge of this useful work. Our dear friend, the devoted Mrs. Bertrand, whose name is well-known to our readers, is one of them, in spite of her age, 72.

Up to Feb. 1, over 83,000 families had been informed of the fate of their lost sons or husbands through this humane agency. War brings out the finest traits in human character, as well as the ugliest. Devotion is as much in evidence as brutality. Praise and love to the charitable, but shame upon the vandals.

Sweet Clover vs. Cattle Bloat

We are in receipt from our well-known friend, E. S. Miles, of Dunlap, Iowa, of a lot of testimony concerning the use of sweet clover and its effect on cattle. It consists of a dozen letters coming from cattle growers as far apart as Dayton, Mont., and Falmouth, Ky., thereby covering a scope of country extending over two-thirds of the



VOLUNTEERS IN THE AGENCY FOR LOCATION OF PRISONERS OF WAR

American Bee Journal

United States.

The following locations were heard from: Sioux City, Delmar, Algona, in Iowa; Springfield and Steward, Ill.; Bassett and Long Pine, Neb.; Falmouth, Ky.; Garden City and Moran, Kan.; Dayton, Mont.

The reports are practically unanimous in denying danger of bloat in cattle. They ascribe this to the cou-



MRS. E. BERTRAND

marin contained in the clover, whether this be the bitter principle or not. Only one party mentions possible bloat, and here is what he says:

"Personally, I never knew of sweet clover bloating stock, yet from my acquaintance with responsible men, there seems to have been some loss, and I would say it is probably no greater than from the common red and white clovers. I have seen a few cases from the latter and even from green oats, which I attributed to poor condition of the stock, or else not being used to the green feed, being rather in the nature of flatulent colic than the bloat which is very common on alfalfa and which is apparently impossible to guard against in cattle and sheep."

On the other hand, one man reports 400 acres of sweet clover without a case of bloat. Another reports the keeping of from 1000 to 2000 heads of cattle on it without any bloat.

J. L. Bartholomew, of Moran, Kan., says: "More dollars and cents and more feed per acre can be made from sweet clover than any other kind of forage that is grown."

It may be interesting to our readers to read that as early as the third year of the American Bee Journal, in the summer of 1867, Mr. M. M. Baldridge, still living at St. Charles, Ill., recommended sweet clover, under the name

of *Melilotus leucantha*. In the same volume, page 223, a quotation from the *Bienenzzeitung* is made, in which F. Bahr says: "In some districts it is said cattle reject it, whether offered to them in a green or dry state, while in others, it is stated, they will eat it greedily. I

have no doubt both statements are correct, and based on careful observation. The soil in which it is grown makes all the difference." We are now inclined to believe that all that is required is to accustom cattle to it. After they have once tried it, they eat it greedily.

MISCELLANEOUS NEWS ITEMS

Massachusetts Meetings Canceled.—On account of the continued prevalence of the foot and mouth disease in Massachusetts, the Farmers' Week programs which were scheduled for March 15-19, were canceled as well as the convention of apiary inspectors scheduled for March 17. It is Dr. Gates' intentions to call this meeting as soon as rearrangements can be perfected. A subsequent announcement should appear in this paper.

Idaho Bill Fails.—A recent letter from State Representative George W. York informs us that the Idaho Foulbrood Bill after having passed both houses of the Legislature, was vetoed by the Governor. This is to be regretted. Idaho is a coming bee country. The earlier bee legislation is passed the easier it will be to stamp out disease.

Beekeeping Meeting at Southern Conference.—The Southern Conference for Education and Industry will hold its annual meeting at Chattanooga, Tenn., on April 27-30. In connection with this conference there will be a number of smaller conferences on various subjects of interest in the South. One of these will be on beekeeping. The general meetings are held in the morning and evening, and the smaller conferences in the afternoons.

In connection with the beekeeping meetings, it is proposed to devote the first afternoon to a discussion with farm demonstrators and teachers. The second and third afternoons (April 28-29) will be devoted to a beekeepers' conference to which all beekeepers are cordially invited. A number of prominent southern beekeepers will be present and these meetings promise to be most helpful.

Beekeeping Lectures in Boston.—Following is a list of a course of lectures on beekeeping given under the auspices of the Boston Chamber of Commerce. This is one series of lectures in their lecture course. The lectures are to be given in the Walker

Building of the Massachusetts Institute of Technology in the evening, according to the dates indicated. The Chamber of Commerce requires a fee of \$1.00 for the course. There may be a slight admission fee for individual lectures. Those desiring further information will address the Boston Chamber of Commerce Lecture Course or Burton N. Gates at Amherst, Mass.:

March 27.—"Beekeeping: Its Importance in Massachusetts" Illustrated.

April 3—"The Beekeepers' Equipment." Demonstrations with apparatus for a simple, standard equipment.

April 10—"How to Begin Beekeeping and the Handling of Bees." Demonstration of methods of manipulation. Illustrated with demonstrations.

April 17—"Beekeepers' Crops; Comb and Extracted Honey Production, Wax Production, and the Rearing of Bees and Queens." Demonstrated and illustrated with lantern slides.

April 24—"Enemies and Bee Diseases: Their Control and Avoidance." Illustrated with demonstrations.

The course will be fully illustrated with stereopticon, demonstrational equipment, charts, and natural history specimens.

Beekeeping in Colleges.—Both Illinois and Wisconsin Agricultural Colleges are striving in the matter of beekeeping education and planning apiary work and courses. We will keep our readers informed upon this. Let the good work go on. We promise hearty co-operation.

Correction of Error.—By error the March Review stated that C. P. Dadant was present at the Denver meeting. The only member of the Dadant family in attendance was the second son, H. C. Dadant.

Illinois Beekeepers!—Bulletin No. 2 containing the 4th annual report of the State Inspector of Apiaries, and much valuable information to beekeepers, will soon be out. Those wishing a copy can get one by writing a postal card to the inspector.

Putnam, Ill. A. L. KILDOW,
State Inspector of Apiaries.

The Eastern New York Beekeepers' Association.—The seventh annual convention of the Eastern New York Beekeepers' Association was held at Albany Dec. 30, 1914. The unfavorable

American Bee Journal

season for honey production during the past year had a depressing influence on the attendance.

Chas. Stewart, State Bee Inspector, at the suggestion of the president, repeated his remarks given at the annual meeting of the State Association, on the subject of "Feeding Back and Feeders."

Having a summer field day meet and demonstration was suggested. W. D. Wright and I. J. Stringham were elected a committee to superintend the matter and make it a success. It was decided to hold the meet at the home apiary of the president at Altamont sometime in July.

President W. D. Wright and N. D. West were elected delegates to attend the next annual convention of the State association, and were authorized to pay the annual fees due the association.

The following officers were elected for 1915:

President, W. D. Wright; 1st Vice-president, Chas. M. Hays; 2d Vice-president, Irving O. Cross; Secretary, S. Davenport, Indian Fields; Treasurer, I. J. Stringham.

The subject of advertising honey to create an increased demand for it was considered, but no action was taken.

STEPHEN DAVENPORT, Sec.

Grading Rules of the Colorado Honey-Producers' Association, Denver, Colo., Adopted Feb. 6, 1915.

(All honey sold through the Colorado Honey-Producers' Association must be graded by these rules.)

COMB HONEY.

FANCY.—Sections to be well filled, combs firmly attached on all sides and evenly capped, except the outside row next to the wood. Honey, comb and cappings white or slightly off color. Combs not projecting beyond the wood, sections to be well cleaned. No section in this grade to weigh less than 12½ ounces net or 13½ ounces gross. The top of each section in this grade must be stamped, "Net weight not less than 12½ ounces."

The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

No. 1.—Sections to be well filled, combs firmly attached, not projecting beyond the wood and entirely capped, except the outside row next to the wood. Honey, comb and cappings from white to light amber in color. Sections to be cleaned. No section in this grade to weigh less than 11 ounces net or 12 ounces gross. The top of each section in this grade must be stamped, "Net weight not less than 11 ounces." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

No. 2.—This grade is composed of sections that are entirely capped except row next to the wood, weighing not less than 10 ounces net or 11 ounces gross. Also of such sections that weigh 11 ounces net or 12 ounces gross, or more, and have not more than 50 uncapped cells altogether, which must be filled with honey. Honey, comb and cappings from white to amber in color. Sections to be well cleaned. The top of each section in this grade must be stamped, "Net weight not less than 10 ounces." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

COMB HONEY THAT IS NOT PERMITTED IN SHIPPING GRADES.

Honey packed in second hand cases. Honey in badly stained or mildewed sections.

Honey showing signs of granulation. Leaking, injured or patched up sections. Sections containing honey-dew. Sections with more than 50 uncapped cells or a less number of empty cells.

Sections weighing less than the minimum weight.

All of such honey should be disposed of in the home market.

EXTRACTED HONEY

Must be thoroughly ripened, weighing not less than 12 pounds per gallon. It must be well strained and packed in new cans, 60 pounds shall be packed in each 5 gallon can, and the top of each 5-gallon can shall be stamped or labeled, "Net weight not less than 60 pounds."

Extracted honey is classed as white, light amber and amber, the letters "W," "L. A.," "A." should be used in designating color, and these letters should be stamped on top of each can. Extracted honey for shipping must be packed in new, substantial cases of proper size.

STRAINED HONEY

Must be well ripened, weighing not less than 12 pounds per gallon. It must be well strained, and if packed in 5-gallon cans each can shall contain 60 pounds. The top of each 5-gallon can shall be stamped or labeled "Net weight not less than 60 pounds." Bright clean cans that previously contained honey may be used for strained honey.

HONEY NOT PERMITTED IN SHIPPING GRADES.

Extracted honey packed in second-hand cans.

Unripe or fermenting honey, weighing less than 12 pounds per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

Connecticut Meeting.—The 24th annual meeting of the Connecticut Beekeepers' Association will be held in the old Supreme Court Room at Hartford, April 17. Sessions 10:30 a.m. and 1:30 p.m.

Some of the subjects discussed will be as follows: "Beekeeping on the Farm 50 Years Ago," by Dr. T. L. Scranton. Dr. Scranton is our oldest member, and has kept bees for more than 60 years. His address promises to be very interesting.

"Bulk Comb Honey"—"Best Way to Secure It in Connecticut"—"Best Way to Strain It"—"Best Way to Market It," by Allen Latham.

"Some things I Have Learned in Keeping Bees," by Geo. H. Yale. Mr. Yale was the third president of our association, and his experience covers a long term of years.

"How I Cure Foulbrood and Dr. Miller's Method," by A. W. Yates.

Question box if time permits. An invitation is extended to all beekeepers to attend this meeting. Ladies will be especially welcomed.

L. WAYNE ADAMS, Sec.
15 Warner St., Hartford, Conn.

BEE-KEEPING FOR WOMEN



Conducted by MISS EMMA M. WILSON, Marengo, Ill.

Too Much Division

1. If I buy five or ten hives of good strong bees early this spring, and if, when the soft maple begins to bloom, I raise each hive-body and put a hive-body with frames and starters under each, will the queen lay in both and fill both with brood?

2. And if, when the fruit trees begin to bloom, I place another hive-body with frames and starters, with a queen-excluder above the second hive, will the bees put what honey they make in the upper hive-body, so that I can use it to feed the bees if I need it?

3. And if, when the fruit bloom is at its best, I fix the bottom-boards for new stands and place the middle hive-body from each stand of three, on the new stand with all the bees that are in this hive, and the hive with the comb honey in the lower hive-body on the old stand, can I expect the hive which has no queen to start queen-cells?

4. And if one hive has a better queen than the others, can I cut out the queen-cells in the other hives and use the better queen-cells as far as they will go, and get the increase with better bees?

5. And if these bees build up well can I increase again in the same way just before and while clover is in bloom?

6. And if I do all this will I see anything but trouble? CONNECTICUT.

1. When soft maples begin to bloom is the time usually counted on to bring the bees out of the cellar. Some of the colonies may be ready for the lower

story immediately, but you can hardly count on their going into the lower story quite so early, as they will not go down until the hive-body is well filled with brood. If the weather is mild no harm will be done by adding the lower hive-body, and letting the queen go down when she gets ready.

2. I am afraid you are expecting too much. If both of the hive-bodies they already have are filled with honey and brood, then they would put their surplus honey above. But the bees use a great deal of honey in spring for raising brood, so you can hardly expect them to fill two stories by fruit bloom, especially if you use only starters in the lower story. They will be doing very well if they are filled by clover harvest. Putting an empty hive-body above is a different thing from putting one below, as the heat rises, and all that extra space must be kept warm. Better be sure that both lower hive bodies are full before adding the third.

3. It is a possible thing that a very strong colony might have two stories filled with brood in fruit bloom, in which case your scheme would be all right. More likely, however, you will find that some of your colonies have not yet filled one story, and until at least that happens it will be better not to divide. The queenless part will start queen-cells if it has young brood. If the story left on the old stand is well filled with brood and contains the old queen it may swarm.

4. Yes.

5. Certainly. But, alas, that "and if" You can divide again when the colo-

American Bee Journal

nies are strong enough for division, but it is not likely to be just before clover bloom.

6. Yes, you will see more than trouble. If you divide when fruit bloom is at its best, and then again just before white clover, you will have some valuable experience. If you tone down your expectations a little, and divide only when strength of colony allows it, you will probably have satisfactory results.

Transferring—Buying Queens

1. I own one colony of bees. I hived it last June in a sugar keg. When should I transfer it to a patent hive? I have just bought five colonies from a neighbor, and am going to move them in a few days. They are in old-fashioned square hives about 4 feet high. When should I transfer these?

2. Do you think I shall get a swarm from each of these six hives?

3. When is the proper time to take honey? I live in Tidewater, Va., 50 miles west of Norfolk. Is a hive robbed more than once during the season?

4. Would you advise that I buy a new queen now or wait until I have had some experience with bees? If you advise, where can I get a queen? Would it be best to get it from the North or South?

VIRGINIA.

1. You can transfer all in fruit bloom. Perhaps, however, the better way would be to wait until the colonies swarm when the swarm can be hived and placed on the old stand, and the old colony placed close beside it. A week later move the old colony to a new stand 6 feet or more away. Two weeks later still, or three weeks from the time of swarming, when all the worker brood in the old hive will be hatched out, break up the old hive, adding the bees to the swarm, and melting up the old combs. Instead of giving the bees to the swarm and melting the combs you can transfer at this time to a new hive. Although there is not much danger of losing their queen, as a precaution, you might give them a frame containing eggs and young brood from the swarm.

If you are anxious for increase another plan may suit you better. When the colony swarms, hive it in your new hive and put it on a new stand. In something like eight days the old colony will likely swarm again, and this swarm can be put on a new stand. Then at the end of three weeks from the first swarm, transfer what is left in the old hive.

2. Yes, if they are strong and the season is good. But if you transfer in fruit bloom they will not be so certain to swarm.

3. If you are working for section honey the sections can be taken off as soon as all but the corner sections are finished. If working for extracted honey, the combs can be extracted as soon as filled and sealed; or you may wait until the harvest is over and extract all. You will see that except in this last case the honey may be harvested as often as ready.

4. If your bees are of good Italian stock no need of requeening; otherwise as soon as the weather permits

get a new queen. You can order from any who advertise in this journal whether North or South.

Queer Tricks of Queens

In the British Bee Journal, D. Wilson tells about being called upon to hive a large swarm which had settled on the stump of a tree on the station embankment. He says:

"In such a public place it was not long before I had a crowd of spectators. One lady with her little boy scaled the embankment to have a better view, and for her safety I lent her a veil. The conversation ran something like this:

"Is there a queen in the swarm? I should like to see one."

"Yes," I replied, "and if I see her I will show her to you."

A few minutes later the lady exclaimed, "Oh! there's a bee on my veil." I asked her to keep quiet and I would remove it. It was now nearly dusk, and with scarcely another glance I took hold of this bee and tossed it into the air. Just as it left my fingers I recognized that it was the queen I had so served. I called to a friend who was near to keep an eye on the bee, and we saw it alight on the boy's head. From there it was removed (carefully this time) and returned to the swarm, half of which was now in the skep.

"This incident, Mr. Editor, would be discounted as impossible if it were in-

cluded in an article of fiction, but it is the bare truth."

An experienced beekeeper can readily believe that a queen-bee with whole wings can be found almost anywhere that her fancy leads her. Why not? When out with a swarm why should she not go wherever a worker can go? The performances of clipped queens, however, are not always so easy to understand. A number of times the writer has found a clipped queen in places where she was least expected.

Once while looking for the queen in front of the hive while the swarm was out, I was suddenly surprised to find my hat was growing heavy. In some way the queen had found her way to my hat, and the entire returning swarm had settled there. Again, she has been found on my apron, sleeves, etc., while I was at work at the hive. Just how she came there was a problem, and a bigger problem to find out where she belonged, for it was by no means sure that she belonged to the hive I was working at when she was discovered. Indeed, she has often been found to belong to a colony some distance away, and after I had been through some half dozen other colonies. Sometimes I have been obliged to cage the queen until I found out where she did belong. I have learned to be careful when setting down a frame of brood covered with bees to place it in such a position that it will not come in contact with any clothing, as I have a suspicion that the queens sometimes crawl off the frames, and that explains why they are sometimes missing.

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Garfield County Beekeepers Organize

The beekeepers of Grand Valley in Garfield county, Colo., organized at Rifle in February and elected C. B. Coffin president, J. H. Gardner vice-president, and Robert E. Foster secretary-treasurer. There are quite a large number of beekeepers in the county, and the association starts out with good prospects of life and usefulness.

The National

In the March number of the American Bee Journal it is reported that the Colorado Honey Producers' Association looked after the entertainment of the visitors at the National convention in Denver and furnished the banquet. I do not want to detract in any way from the work done by the Colorado Honey Producers' Association, as we all did our best, but the entertainment features and arrangements were made by the Local Committee appointed by Dr. Gates, which was comprised of the officers of the Colorado State Beekeepers' Association. This committee raised over \$85 besides securing a \$40 contribution from the Convention

League. The Colorado Honey Producers' Association furnished the banquet and looked after their exhibits while the Local Committee furnished the custodian for exhibits.

About 40 beekeepers contributed individually to the entertainment fund, and credit should be given to all.

Hulled and Unhulled Sweet Clover Seed

There is considerable misinformation regarding the germination characteristics of unhulled and hulled white sweet clover seed. The farm papers have it mixed up themselves and they are responsible, partly. First, the seed coat of white sweet clover is very hard and so impervious to water that but a comparatively low percentage of the seed germinates the first year unless the seed coat is softened by the use of an acid solution (This process is explained in the Government bulletin on sweet clover), or the seed is sown in the fall and allowed to lie in the ground all winter.

The seed coat of sweet clover seed is not the hull. This is where the misinformation comes in. Unhulled seed

American Bee Journal

will germinate more readily than the hulled, for the hull soaks up and holds large quantities of water right against the coat of the seed, and the freezing and thawing of this water will sooner or later disintegrate the seed coat.

Another thing, hulled or unhulled seed that is harvested when seed is slightly greenish in color has a softer seed coat and will show a very high percentage of germination.

New seed sown on damp or wet soil within a week or two after seed is harvested will nearly all germinate. But hold this seed all winter and sow in the spring and not over 25 percent of the seed may germinate. Hold this same seed several years and the germination improves again, probably because the hardened seed coat softens with age.

[Mr. Foster is correct in regard to the hard coat of sweet clover. Numerous samples tested at Agricultural Experiment Stations show that the average sweet clover seed is so hard and impervious to water that only about 40 to 50 percent will germinate the first year. The process of soaking it in sulphuric acid, to remove the hard coat, is successful, but the majority of farmers will not use it on account of the care required in handling the acid.

A machine has recently been invented to scratch or "scarify" the seed so that moisture can penetrate this coat. We have been fortunate enough to secure one of these machines, and in numerous tests have found that this scarified seed germinates as high as 90 to 98 percent. Eight to 10 pounds, or even less, of this scarified seed will sow an acre and secure a good stand. Ordinary seed which has not been treated requires 15 to 20 pounds of the hulled or 20 to 25 pounds of the unhulled to insure a good stand the first season. With good hulled seed selling at \$24 to \$25 per hundred weight and unhulled at \$16 to \$18, the saving is worth while.

The increased germination caused by this scarifying will so encourage farmers to grow sweet clover that we predict a steady source of honey for the beekeepers throughout the country. The scarifying applies to the hulled seed only, as the hull must be removed before it is treated.—EDITOR.]

Montana—A Developing Honey-Producing State

Prof. R. A. Cooley, State Entomologist and Professor of Entomology at the Montana Agricultural College, Bozeman, Mont., has a map of the State into which he has inserted a large number of black-headed pins, each pin representing the location of a beekeeper. There are close to 300 pins already inserted in the map, and if bee-culture develops as it did in the past few years, the supply of pins may run short.



BLACK DOTS SHOW THE DISTRIBUTION OF BEEKEEPERS IN MONTANA

There are as yet not more than 5,000 colonies of bees in the State, but the number is growing. There are some limits to beekeeping in Montana; namely, the valleys are as a rule narrow and the winters are more severe than in the States of Idaho, Utah, Colorado, Nevada, etc.

Almost all of the bees are wintered on the summer stands, although some

of the beekeepers are giving protection. Some are trying cellar wintering.

Montana beekeepers have organized and now have an enthusiastic association. Dr. Copenhafer, of Helena, is president, and Percy Kolb, of Billings, is secretary-treasurer. All Montana beekeepers should send their dues to Mr. Kolb and help Montana beekeeping to build up well and strong.

CANADIAN BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Early Feeding for Stimulation

In April many will wish to feed up colonies, particularly weak ones, in the hope that the bees will build up more rapidly. There may be some cases (rare ones in my opinion) when early spring feeding pays, but if your colonies have abundance of food in the hives, are well protected and otherwise in a normal condition, my advice is to leave them alone until fruit bloom. This is for beginners; older beekeepers have their own ideas and can and will do as they think best. I do not believe that it pays to feed bees sugar syrup in early spring unless it is to avoid starvation, then I regard it a necessary evil.

son for deciding to get rid of Carniolans and keep all Italians.

Picture Explanation

A word of explanation regarding that picture of one of my apiaries, shown on page 86 of the March American Bee Journal. Those are winter cases piled two deep that appear in the foreground. The apiary is large, over 250 colonies, and the hives can be seen in the distance as well as to the right and left in the picture. Owing to bees all around the yard it is difficult to get a view that will take in more than half of the apiary.

Big Losses Expected

Unless the last of March should be out of the ordinary, the past winter will go on record in Ontario as being the most pleasant in the memory of almost everybody. December was cold, much the coldest month of the winter, but since then we have had moderate weather with bright sunshine nearly every day; have had continuous sleighing since early December, and at this date (March 12) some wheels are going on the road for the first time.

Contrary to what might be expected after such a favorable winter, the loss in bees here, in York county, will be the heaviest in years. Colonies seemed to hold together nicely until March 1, but since then many have broken clus-

European Foulbrood and Carniolans

Mr. Elwood's experience is interesting and valuable, coming from not only an extensive beekeeper, but one of our most successful. I am glad that he gives the Carniolans a boost. If I were sure of their being as resistant to European foulbrood as Mr. Elwood infers, I would be slow in forsaking my first love for them in favor of Italians. The latter have their good points, and so have the Carniolans, while both likewise have failings. Averaging them up, in my experience the grey bees score the most "points." The fact that Italians have been almost universally boosted as being best to resist European foulbrood has been my only rea-

American Bee Journal



PERCY KOLB, OF BILLINGS, AND S. F. LAWRENCE, OF HARDIN, MONT.
The former is Secretary, the latter, member of Executive Committee of the Montana Ass'n.

ter and are going to perish before spring—many are nearly gone already. Today I examined two or three of these colonies that are in uproar, and as I expected, found combs of honey granulated solid and the bees chewing off the cappings trying to use the granulated stuff for food. I was afraid of this last fall and fed many colonies that had enough weight without any extra feeding, hoping that the syrup would tide them over until spring. In some cases the bees have eaten near enough to the top of the frames to get at this poor stuff, and they are now showing the effects in an unmistakable

manner. If a cleansing flight had come sooner, things might have been better, but I doubt if it would have helped a great deal, as poor stores will "do the trick" even if bees have an occasional flight, if the weather is severe between flights. As to the bees in the north yard wintering on aster honey, I have not yet been there.

I cannot say how conditions in Ontario will be generally, but I venture the guess that the loss will be the heaviest in years. This is a natural sequence, following a failure of the honey crop, especially when poor stores are in the hives for winter.

ner gives us the salient features in regard to beekeeping. We would only add for the more general reader that it is several hundred feet below sea level, has but about 3 inches of annual rainfall, and that from the crude but rich elements found there the inhabitants have built cities and towns of richness and beauty. Their fields grow almost all known crops in the greatest abundance. It is surrounded by the weird



AN APIARY COVERED WITH ARROW WEED

but beautifully fascinating scenery of the Colorado desert. Here is the home of the noted novelist, Harold Bell Wright, whose most successful book, "Barbara Worth," is the story of the early reclamation work.

"Imperial county is located in the southeastern portion of California, and is perhaps the only county in the State where crops are entirely dependent on irrigation. Here all the water is taken from the Colorado river, nearly 500,000 acres being irrigated from this source. The country was a desert; the soil is silt deposited by the overflow of the Colorado. You may go for 30 miles east and west, or 60 north and south and not find a single pebble unless it were one that had been brought by some one.

"The honey producing plant is alfalfa. While some honey is produced from cantaloupe and watermelon blossoms and from cotton, the main crop is alfalfa.

"The first bees were brought into this county in 1905, by wagons from

CALIFORNIA BEE-KEEPING

Conducted by J. E. PLEASANTS, Orange, Calif.

Honey Producing Sections of Southern California

All southern California is good for honey production. Of seven of the most southern counties, San Diego, San Bernardino, Riverside, Orange, Los Angeles, Ventura and Santa Barbara, the native nectar-producing flora is substantially the same. These are the sages, sumac, wild buckyheat, wild alfalfa, etc. These plants cover the foothill and mountain region of all these counties.

In the large cultivated valleys come fruit bloom of various sorts, especially the orange blossom which furnishes a

good yield. Also in several counties such as Ventura and Orange, lima bean bloom gives a good supply.

Imperial county, as Mr. Wagner tells us, is almost exclusively alfalfa bloom for a honey yield.

Beekeeping in Imperial County

We present this month a sketch from Imperial county by Mr. A. F. Wagner, the inspector of that county. Imperial valley is a unique spot both in its peculiar conditions and for the quality and enterprise of the people who have made it what it is. Mr. Wag-



A. F. WAGNER IN FRONT OF HIS APIARY

the mountains east of San Diego. The county now contains 20,000 colonies. The product is practically all extracted honey, and the average crop is something near 100 to 200 pounds per colony. The actual surplus honey-flow lasts only about 60 days, although the climate is extremely warm and the colonies contain brood perhaps at all times of the year. All the yards are shaded. Almost all of the sheds are long enough

American Bee Journal

to cover from 100 to 200 colonies. They are built by placing two rows of posts parallel with a cross beam at the top, and over this seven or eight wires are stretched lengthwise, making the width about 10 or 12 feet. These wires are covered with arrow weed, a peculiar brush that grows on all overflow land to the height of 5 or 6 feet, perfectly straight, and contains thick leaves which make it ideal for shade.

"The honey is generally light amber, some seasons very light, other seasons darker. It compares favorably in color with the light amber honey produced in the coast counties. It is very mild in flavor, and must not be confounded with the dark strong honey produced in other parts of the State from alfalfa. In the early days, before the reclamation of the land, some honey was produced from wild hollyhock and another plant or shrub called 'grease brush,' which was very dark and with a strong flavor. With the reclaiming of the desert this has entirely disappeared.

"With the formation of the county the Board of Supervisors saw the necessity of the protection of the bee industry. We have always had an in-

spector of apiaries, and the consequences are that the county is practically free of brood diseases. All bees are kept in standard movable frame hives. Several years ago to further safeguard the industry, the supervisors adopted an ordinance then in force in several other counties in southern California for the prevention of the shipment of bees from districts or counties where disease was known to exist, giving the inspector power to declare a quarantine if necessary. The danger of importing brood disease has practically been eliminated.

"Generally speaking, the crops are not very large, but the certainty of crops appeals to a person more than one year of large crops with an almost entire failure other years. Again it is perhaps more expensive to maintain an apiary in this county, owing to the fact that there is practically no waste land where apiaries can be located and rents are from \$20 to \$50 for each location. Also all colonies are assessed at \$2.00 each. The Bard district in this county produces some mesquite honey which is of very good quality.

"A. F. WAGNER."

but they do not bloom until the regular blooming period comes. Of course, as the spring opens so does beekeeping, which makes the season earlier than in the central and northern part of our country, and naturally it closes later. Then, too, the sources of honey vary.

Our industry has put on a great growth here of late, since we have come down to more reasonable expectations and have risen higher in the knowledge of our business.

The Caucasian Bee

Editor Root of Gleanings in Bee Culture, under editorials for March 1, has this to say about Caucasians: "The question whether or not they swarm to excess should not be given too much consideration. The real question after all is, are they money makers?" This is the question in a nut shell. But are they? I will answer "yes, so far as they have been adopted." There have been some few limited experiments that would not substantiate me in this.

While many beekeepers have made a great success since they adopted the Italian bees, there have been many miserable failures also with them. With me the Italians would not breed up, and the old bees carried over from the previous season rapidly disappeared, and colonies were greatly reduced in strength. In this condition they consumed stores at a time when they should have been making a living.

The Caucasians were gaining in strength every day when the Italians were barely holding their own. When the main flow came they built up some and stored a little honey in the brood-chamber, but long before the next flow they were again reduced in numbers. On the other hand, the Caucasian predominated, multiplying fast in number of colonies by artificial increase, and at the same time producing large crops of honey each season, which gave my business a good backing and kept it

BEE-KEEPING IN DIXIE~



Conducted by J. J. WILDER, Cordele, Ga.

Failures

If success lay in the path of every one who entered beekeeping, ours would soon be a crowded business. Removing and marketing honey is where many fail. Much of our honey granulates or candies. It should not be removed until the market is ready for it; then remove it, pack it, and ship it at once, and it will be consumed before it granulates and causes trouble, for the longer it is removed from the bees, the less fit it is for the market. This applies only to chunk and extracted honey. Comb honey in one-pound sections should be removed and packed as soon as finished. We have warm weather suitable for removing and packing honey during the winter months.

At this time (March 10) we have lots of colonies with almost their entire last season's crop still on. The honey is as good as, if not better than it ever was. The market has not been ready for it, and when it is it will be removed, and not before, even if some is left to go on in the new crop. This is better in two ways, for the bees are in the very best shape under these supers of honey.

Beekeeping in Florida

Owing to the climate and possibilities of development in Dixie, much has been said concerning it as a bee and honey country. As a rule, opinions of it are far from right. Bees gather little or no honey through the months of December, January and February, for

even this climatically favored country has its seasons when natural vegetation rests. Trees and almost all kinds of forest plants stop growing and shed their leaves. Naturally the bees rest also.

Vegetables of almost all kinds grow and flourish wonderfully during this time, and cultivated trees such as the citrus fruits also grow if fertilized, etc.,



J. J. WILDER AT HIS WINTER HOME IN BRADENTOWN, FLA.

American Bee Journal

going, when I would otherwise have failed.

In the most favored locations in Florida I have hundreds of colonies of pure Italian bees, but I am frank to admit they have never given me such returns as do Caucasians, and general results are very unsatisfactory, and as

early as possible we will replace them with Caucasians. It takes an expert apiarist to care for 200 colonies of Italian bees, feeding them and building up. But one man can take care of 600 colonies of Caucasian bees, for they are strong and heavy, and stay together during the harvest.

little. They spoke so fast! Wife had been kindly provided with an interpreter and cicerone, Mrs. Bazzano, a lady who spoke French and English, as well as Italian, and who volunteered to stay with her during the entire day. She very kindly accompanied us wherever we went.

One of the apiarists assured me that the famous May disease (paralysis) was

NOTES FROM ABROAD

BY C. P. DADANT.

Ancona, a seaport on the Adriatic, is one of the oldest cities of Italy, having been founded some 400 years before the Christian era. It is located in a pretty valley as well as on the hills on both sides. The old part of the city is on a very steep hillside, with narrow streets, paved with cobblestones. But the modern part is very pretty, and the streets are wide. The vicinity is beautiful; there are so many fine residences, and the country is so well cultivated that it seems a fairy land.

Our first visit was to the offices of the Italian Apianer Federation, of which our young friend Mr. Cotini is manager. So we will give you an introduction into this organization.

The federation was established in 1904 with 72 members. Its purpose was to handle and sell the honey of the beekeepers. For a few years its shares of stock were of only \$2.00 each. In 1909 they increased the stock price to \$10, payable \$1.00 each year. They had, at the end of the year 1913, 590 members, and handled \$682,000 worth of honey. They have large producers among their members. One of those whom I met was said to own over 1000 colonies of bees. This is a very large number for a country as thickly populated as Italy. They supply their members with tin boxes similar to our 60-

pound cans, but holding 50 kilos or 110 pounds each. The cost of these packages is a trifle over 3 francs, or 60 cents each. Some honey is exported into Germany, Belgium, France, Austria and Switzerland.

This association publishes a magazine or "bulletin," entitled "L'Apicoltura Italiana," with an experienced apiarist at its head, Dr. Colantoni. The main styles of movable frame hives used by the members are the "Marchigiana," a deep frame hive, and the Dadant. As in the other countries visited by us, extracted honey is the principal crop.

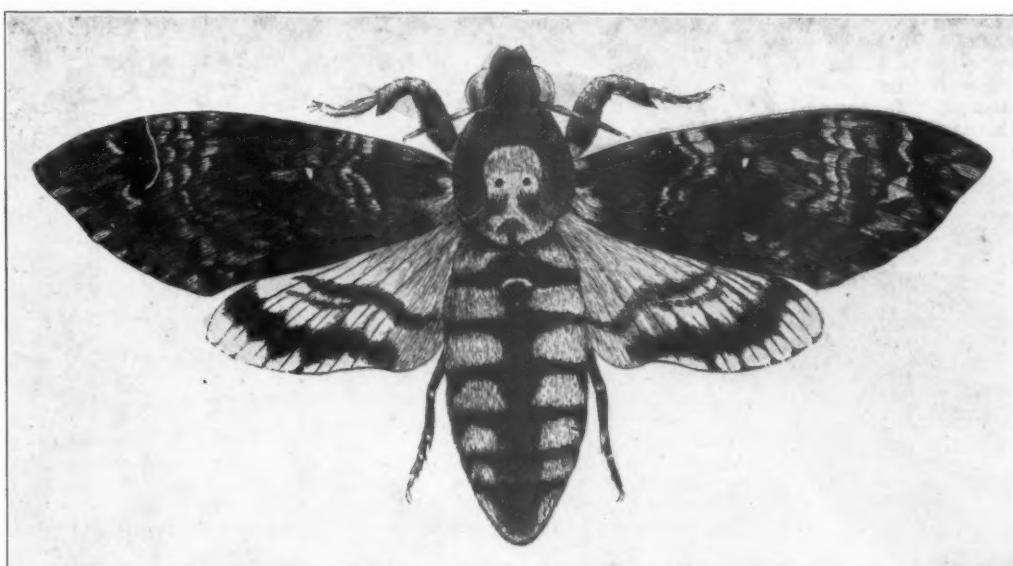
After a short meeting of beekeepers, we gathered into the small public park and a photograph of those present was taken. Then came a banquet at our hotel. After the banquet automobiles were brought forward for a visit to beekeepers. Dr. Colantoni, the editor of the journal, has his home and apiary some 7 or 8 miles in the country. It was a beautiful ride, among olive trees, fig trees, and other warm country products. The sainfoin is here also, one of the principal honey resources.

At Dr. Colantoni's we met more beekeepers. But most of them spoke only Italian, and though I made strenuous efforts to understand them, I succeeded



PROF. ATTILIO COTINI,
Manager of the Beekeepers' Federation

present in his vicinity most of the time, and that he had some instances of it in his apiary at that time, Sept. 12. We looked among Dr. Colantoni's bees, and found a few apparently crippled in front of the hives. He asserted that these were diseased. Yet they had none of the usual symptoms, distended abdomen and hairless appearance. Here as elsewhere, the May disease was charged to inferior or moldy pollen, though a few believed it due to



THE DEATH'S-HEAD MOTH—(Actual size)

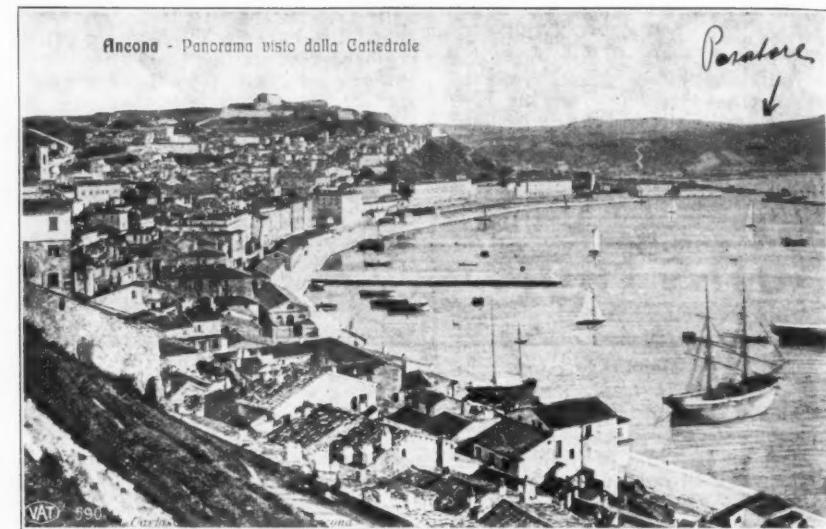
American Bee Journal

certain kinds of blossoms. This cannot be the case, since it exists in all sorts of countries with entirely different flora.

The homes of well-to-do country people are scattered on the hill tops and make beautiful sights, as most of them are real castles. On our return from the Colantoni home we stopped at the country place of Dr. Marchetti, one of the leading beekeepers. I have never seen a more delightful country place; hidden among the trees, well shaded and surrounded with blooming gardens.

Later we visited the apiary of Mr. Cotini, at his summer home. This is on the bluff overlooking the Adriatic, and in full view of the city. They had extracted the honey a few days before, but the crop was on again, and considerable fresh honey showed in the supers. Here I saw an insect I had never yet seen, the death's-head moth (*Acherontia atropos* or *Sphinx atropos*), which many European writers mention as making great depredations in hives of bees. This one was dead, inside of the entrance of a colony. I noticed it as I walked in front of the hives and became so eager to get it that I forgot my usual prudence. I picked up a little stick and poked into the entrance to secure the moth. I did secure it, but angered the bees and got several stings for the first time since my arrival in Italy. Unluckily it had been so badly damaged by the bees in their efforts to get rid of its carcass that it was of little value for a picture. So I offer our readers the copy of a wood-cut borrowed from the ancient work of Hamet, giving the moth at its natural size.

Until then, I could hardly believe that death's-head moths would be brave enough to enter a hive of bees to feed on its honey. But this was evidence which I could not gainsay. It appears that this moth fears the stings but little, and enters weak colonies to gorge upon their stores. Hamet says they can take as much as 60 grammes (2 ounces); rather an overdose! This one had entered at some point where the entrance was high and had evidently been unable to find the same spot to escape in time to avoid the angry bees. Some writers claim that the bees reduce the entrances of their hives with propolis, when they are too large, in fear of this moth. We did not notice any such work. But I do be-



LOCATION OF THE COTINI APIARY NEAR ANCONA



COTINI APIARY WHERE I FOUND THE DEATH'S-HEAD MOTH

lieve that the bees reduce an entrance whenever it is located where it gives too much ventilation, above the brood-chamber for instance.

They do this in all countries, moth or no moth. The death's-head moth is one of the largest moths known. The Dictionnaire Larousse describes its largest specimens as measuring 13 centimeters (5 inches), across the wings, from tip to tip. So the cut we reproduce is not too large. Its larva feeds on potato vines, cow peas, lettuce, etc. The moth itself was credited, even by educated people and priests, in the middle ages, with deadly power. This was due to the death's-head picture so conspicuous on its corslet. It exists mainly in southern Europe and Africa. It is unknown in the United States.

To complete the information which I have secured concerning this extraordinary insect let me quote a passage from L'Apicoltore of March last. Dis-

cussing a statement made in Gleanings in Bee Culture regarding cats which were accused of eating bees, the editor wrote:

"In our apiary the cats give an active chase to the death's-head moths who are in the habit of entering the hives to steal honey from them at night. These are stupid and slow moving insects which allow themselves to be readily caught."

From the Cotini country home, we had a very fine view of Ancona and the bay. We also visited the home of his tenant, an Italian "contadino." It was comfortable but exceedingly rustic.

On the second day, we had dinner at the home of Mr. Cotini, in company with himself, his beautiful young wife, her younger sister, and Mrs. Bazzano, already mentioned. We were so kindly received that we will never forget the hospitality displayed.

Later we began a search for the



DR. CESARE COLANTONI,
Editor of L'Apicoltura Italiana

American Bee Journal

cousins of my wife and the old home of her father. He was born there in 1814, or 101 years ago, went to Paris in 1832, was married there and came to America in 1847. Our friends had not been idle, and they had gathered sufficient information to at once find two remaining relatives, married ladies with families, who greeted us heartily. The family birthplace, we were informed, was at the upper edge of the cliff, in the old part of the city. A carriage was secured and we began ascending tortuous, narrow streets, paved with cobblestones. The old stone houses with their narrow, grated, iron-framed windows, looked more like dilapidated jails than homes. Yet the stirring, ragged urchins which filled these openings, or sat on the stone steps, gave an idea of intense life.

This was so unlike our own country that my wife was greatly moved, in the expectancy of finding her father's birthplace in such ugly surroundings. But we were pleasantly surprised, for the house, though small, proved to be airy and beautifully located at the top of the hill, with a fine view of the city and the bay. From this point we could see the port, the sea baths and the Trajan arch (Arco Trajano), erected in the

year 115, in commemoration of the mole or jetty built by this emperor, and still in use. The arch is of marble and well preserved.

In this old city, as elsewhere in Italy, the children are numerous and happy, the men handsome, the women pretty. Almost all of them have black eyes, heavy black or auburn hair, and amber velvety skin, due to the warm sun of a country where frosts are almost unknown.

On the morning of Sept. 13, we took leave of our kind friends, to continue

our trip, henceforth turning our faces towards the setting sun and slowly decreasing the distance between us and our home.

Since writing the foregoing, I have found, in the 1885 volume of the "Revue Internationale," the mention of finding, at Bex, Switzerland, 14 death-head moths gorged with honey, in a hive which had been abandoned by the bees. In the same article is found a letter from Francois Burnens, the famous helper of Huber, to his master on this subject.

CONVENTION PROCEEDINGS

Glimpses of the National Meeting at Denver

The Denver meeting was very successful in many ways. The delegates from the East were given a glimpse of western beekeeping, and can better

appreciate the view point of the bee-men of the mountain country.

Living in the mountains has, perhaps, given these westerners a large horizon, and they deal with problems of honey production in a large way. They number their colonies by hundreds and even by thousands, and count their production by tons and carloads. It is not to be wondered at, if they get the idea that those of us further East who have but a hundred or two colonies and produce but a few thousand pounds of honey are amateurs.

However, they are big hearted fellows and did everything possible to make our stay pleasant. Automobile trips to the mountains and to the various apiaries within reach were among the most interesting features. The writer had the pleasure of being a member of one of the parties to enjoy a trip with Mr. Herman Rauchfuss to one of his apiaries, and following that, a ride to Morrison, and a most wonderful trip of 15 miles into the mountains along a very pretty little stream that seemed to persist in running uphill. Nothing seems just right to a man from the East. The high altitude and the clear atmosphere upset all his calculations. A mountain that looks to be but a few miles distant, he is assured is 50 or maybe a hundred miles away. At times the irrigating ditches and even the streams seem to be running upgrade, and he cannot figure out how it is that his eyes deceive him so.

One afternoon the National adjourned to give the Colorado beekeepers an opportunity to hold a business session, and the whole bunch of visitors went to Golden and to the top of Lookout mountain. While it was a wonderful trip, we were in the hands of an excursion company who apparently had no thought except to get us back as quickly as possible. Little opportunity was offered to enjoy particularly interesting scenery. The winding ride up the narrow mountain road where a single careless turn on the part of the driver would dash the whole party hundreds of feet down the slope, together with the fascinating views of peak and gulch, gave a variety of sensations to the tenderfoot from the East. When the descent began, several of the visitors felt strange sensations in the back of the neck and the



FRONT OF THE COLORADO HONEY PRODUCERS' ASSOCIATION STORE DURING "NATIONAL" WEEK

American Bee Journal



3. M. McCombs, 4. J. D. Atkinson, 5. Grover Matthews, 6. L. Steel, 7. D. B. Hersperger, 9. J. B. Brunstein, 10. J. P. Molhalm, 12. Mrs. J. C. Evans, 22. Mr. Watson, 23. A. A. Lyons, 24. J. N. Pease, 25. Mr. Stuart, 26. J. A. Everett, 27. J. C. Bull, 29. H. C. Dadant, 30. F. G. Rauchfuss, 31. C. Noll, 41. P. Kolb, 43. A. Richardson, 44. C. Stimson, 45. W. H. Bartleson, 46. J. W. Hackney, 47. A. J. McCarty, 48. Mrs. McCarty, 50. Littleton, 51. G. Bohrer, 52. G. W. Williams, 53. Frank C. Pellett, 54. Wesley Foster, 55. Frank Rauchfuss, 56. Geo. Miller, 57. H. Rauchfuss, 58. F. Son, 59. H. Ingalls, 60. C. Bentrup, 61. J. B. McKinstry, 62. H. G. Rauchfuss, 63. W. T. Brand, 64. Stimson, Jr., 65. E. C. Herrington, 66. Polhe...

pit of the stomach. Most of the party who were not accustomed to mountain climbing breathed much easier when they were safely back again on the trolley, bound for Denver.

After the close of the convention a number of the delegates bought tickets home over the Rock Island, via Colorado Springs. The party arrived in the Springs a little before noon, and spent the afternoon in an automobile trip to the Cave of the Winds, the Garden of the Gods and the Seven Falls. The Garden of the Gods was a disappointment. We had already seen much finer things that we had never heard about, and the so-called garden has been heralded to the ends of the earth as a sight never to be forgotten. One soon gets the impression at Colorado Springs that the principal business is entertaining tourists. We had now left our beekeeper friends behind. Instead of being honored guests we were tourists, and at every turn we met an opportunity to part with our money. On this trip were other steep climbs and great views, but the experience at Lookout mountain had prepared us for the climb, and some of the sensations of the first trip were lacking.

Here some of the delegates left the party, returning to Denver or going home by other routes. Enough, however, remained together to hold a continuous convention until Omaha was reached, when Prof. Jager left to take another train, and a short distance beyond, the writer stopped at home.

On the whole, the most interesting of all the mountain trips was in the Rauchfuss car, when we could stop as long as we liked, drive as slowly as we liked or get out and walk as we preferred. Nor more interesting moun-

tains did we see than those along the little trout stream above Morrison. (We had to take Mr. Rauchfuss' word for the trout.)

The banquet was a great occasion. When the orchestra played "It is a Long Way to Tipperary," the applause was fine. A little later they played "The Watch on the Rhine," and the noise was deafening. Apparently the beekeepers are neutral.

Dr. Phillips as a toastmaster rose to the occasion in grand style. The way he put some of the speakers in the hole was awful, and they say that there may be a day of reckoning if Phillips ever gets on the other end of the same string. He recited a little history by telling of the first official beekeeper of Massachusetts, who unfortunately became a town charge at the end of two years. Dr. Gates was introduced as a worthy successor.

Space forbids even brief mention of the many interesting things in connection with the convention, but the delegates left with recollections of a very pleasant journey and a feeling that the Colorado boys had given them a fine reception. FRANK C. PELLETT.
Atlantic, Iowa.

fortably settled and found an enjoyable company of western brother beekeepers. Unlike the male inmates of the bee-hive, the drones kept busy, buzzing almost day and night during the three days' session.

Dr. E. F. Phillips quoted statistics, showing that honey is coming into the United States at the rate of about 1,500,000 pounds per month, whereas, before the outbreak of the European war, the imports totaled only that much in a year.

Mr. Frank Rauchfuss warned beekeepers not to look to the big honey markets during the coming year for the disposition of their crops to as good an advantage as normally. Every beekeeper should develop and supply his home market direct. Very few homes have honey on their table or use it in their cooking the year around. Ready sale can always be found for the best grade of honey for the table at good prices.

A new bulletin will soon be issued by the United States Department of Agriculture, "The Use of Honey in Cooking," which will contain recipes tried out. This bulletin, which is to be given wide publicity and distributed as much as possible throughout the United States, should help a great deal in developing a larger demand for honey.

"Many districts have been spoiled by poor quality honey and low prices," said Mr. John C. Bull, who made a plea for uniformity of prices and grading rules for extracted honey. Some large bottlers of honey today are putting on the market a uniform grade by blending the various grades of honey from different parts of this country. This seems to be the only

The 1915 National

Only a small group, nine in all, of eastern men reached Denver together, in the car planned for their sole occupancy. Others, making a total of 15 from east of Colorado, had arrived previously. It was a pleasure to be met at the station by Colorado beekeepers and taken to the hotel in automobiles. There we were soon com-

American Bee Journal



Cornelius, 13, A. G. Woodman, 14, J. Cornelius, 15, D. H. Hillman, 16, L. C. Elliott, 17, Prof. Jager, 18, F. E. Millen, 20, M. Stoneman, 21, W. fuss, 22, Mr. Sellers, 23, Mr. Stark, 24, R. C. Clary, 25, Mr. Brown, 26, H. Lathrop, 27, Mr. Sanders, 28, C. P. Wallick, 29, P. W. Ritter, 30, Miss Foster, 31, Mrs. Foster, 32, Mrs. Cochran, 33, Clare Rauchfuss, 34, Mrs. O. Foster, 35, D. Moon, 36, Mrs. M. Booth, 37, Mr. Peabody, 38, D. C. Polhemus, 39, J. E. Walcher, 40, A. Elliott, 41, J. E. Miller, 42, M. Cantonwine, 43, W. N. Birney, 44, Chas. Cheek, 45, F. William, Jr., 46, Geo. Nichols, 47, H. Whitacre, 48, E. R. Root, 49, B. N. Gates, 50, W. P. Collins, 51, Ward Foster, 52, H. Eggleson, 53, J. C. Aikin.

practical method of placing before the public a uniform flavor of honey on which they can depend. Others believed it better to educate the public to the various flavors of honey and the reason therefore.

The greatest problem for the National Beekeepers' Association, outlined by Prof. Francis Jager, was a greater recognition of the bee and honey industry by the government and more publicity. He urged large appropriations to do the vast amount of work as yet untouched for the improvement of the races of bees, the development of locations and pastures, the honey market and the education of the beekeepers.

Migratory beekeeping, although tried on a large scale, has not always proved successful. The main causes of ill-success, mentioned by Mr. E. R. Root are: Time and distance of moving, conditions *en route*, adverse crop conditions developing after the southern fields are reached and probably most important of all the handling and attention given the bees by those put in charge, during the absence of the owner.

The weakening of colonies by death to the field-bees as a fall honey-flow advances was reasonably explained by Mr. H. Rauchfuss. The corolla of blossoms similar to the cleome of Colorado presents sharp edges which injure the bees' wings, so that they are unable, after several trips, to return to the hives, and perish in the field.

Dr. Burton N. Gates managed the chair with care and fairness, and was re-elected unanimously.

It was my pleasure to see over 300 colonies, in two apiaries of Mr. Herman Rauchfuss, wintering near Denver.

To a beekeeper of the Middle States they looked as if just unpacked and ready for spring. The wintering is simple. No packing, inside or out, in that climate, a mile above sea level. We found all these hives standing in the open, in well sheltered spots almost

surrounded by rising ground, but without shade trees. The inner cover or escape board is left on with the escape removed. The covers are made to telescope about $1\frac{1}{2}$ inches, but do not fit tightly, thus allowing some ventilation.
H. C. DADANT.

CONTRIBUTED ARTICLES ~

The Hand Convertible Hive

BY E. F. ATWATER.

THE writer has read with interest the series of articles by Mr. Hand, giving the details of construction and manipulation of his large convertible hive.

Our experience covers operation of as many as 13 apiaries at one time, and years ago, some of these apiaries belonged to others, and were run "on shares." In these yards there were several styles of hives. One style had frames $13\frac{1}{4}$ inches square inside, and enough of them to give a brood-nest equal to 17 Langstroth frames. This yard gave the largest crop, per colony, and was always the strongest and went into winter very heavy.

The writer was, at that time, an advocate of the 8-frame hive, Langstroth or Heddon, and his experience came as quite a shock to him. About a year before this the writer contracted for the swarms from a yard of these larger hives, miles away, and here again the

colonies, with no care, were stronger than in other yards having good care.

Several years ago the writer visited the big apiaries of Pennington Bros., of Oregon, and found there 80 hives each containing 13 Dadant frames. These large hives always gave large yields until paralysis and spring dwindling finally struck the apiary, when all, large and small, went down together.

It is very evident to the producer of extracted honey that few hives are too large for the bees. But for convenience of handling, and in out-apiaries, few care for hives larger than the standard 10-frame Langstroth. There can be no question with those who have tried both, that larger colonies earlier may be had in large single story hives, rather than in those of two or more stories, with their bee-spaces and top and bottom bars.

Mr. Hand's idea of using a cheap inner hive in cold weather, or an old 8-frame surrounded by packing is excellent, where packing is necessary, but

American Bee Journal

here it is not needed.

At first Mr. Hand told us that his hive was 20x26 inches, but now he says 20x24, but the latter holds but 14 frames at 1½ inch spacing, and a heavy dummy. A point apparently overlooked by Mr. Hand is that if one is to use a very large hive, then by all means make it wide enough so two 8-frame hive bodies, side by side, may be used for supers, as in this way good use may be had for tens of thousands of dollars worth of equipment now in the hands of beekeepers. This is a point of almost supreme importance, as beekeepers cannot afford to discard such valuable equipment.

This would call for a hive 20x27½ inches, or 20x28 holding 17 frames with 1½ spacing, or 18 frames 1¾ spacing, allowing for a dummy if the latter spacing is used. Or the hive could be made a little narrower, allowing the 8-frame bodies used as supers to project ¼ to ½ inch on each side. However, the writer has serious doubts about the 17-frame hive being a comb-honey hive, unless the brood-nest be contracted and the comb honey all produced in the super. We also find that, unless the flow is very good, the plan of alternating extracting combs and wide frames of sections is a failure in producing comb honey. Let us examine the claims originally made for this hive.

1st. A brood-chamber of a capacity to develop the fertility of queens sufficiently to check the swarming impulse and bring the colony on the stage of action with the strongest force of bees possible. True, this large hive will tend to delay swarming, and in some localities totally to prevent it. And certainly the hive with 16 or 17 frames, as originally described, is large enough to rear a giant force for the flow.

2d. "Spontaneous prevention of swarming." If I understand Mr. Hand's later articles it is eventually abandoned, but would hold good in many localities, though unfortunately not in this immediate vicinity,

3d. "A single-wall hive in summer and a double-wall hive in winter, affording ample winter protection without extra equipment." No question about the protection, but the inner case certainly constitutes a little extra equipment to be stored away in summer. If to be left packed until late in the spring in this locality, 13 frames would be far better than 8, but in a mild climate like this, we would not use an inner packing case, and would leave 13 frames of stores, which are usually none too much.

4th. "Horizontal expansion by means of a sliding follower." A good feature surely, though again in this locality the gradual expansion is usually confined to the building up of increase; no need of it with full colonies.

5th. "A cubical form," etc. Rather immaterial, it seems to me.

6th. "It necessitates handling the wintering combs, thereby eliminating the loose practice of guessing at internal conditions." Good point that, though the writer prefers the "loose practice" applied with moderation and an observing eye.

7. "Its advent will mark the beginning of a new era in bee-hives and methods, and sound the death knell of

expensive paraphernalia for wintering bees and producing comb honey." Claim, in part, often heard before, but quite possible. I wish I had a yard or two in them.

Meridian, Idaho.

had everything from a golden to a pure black colony. Our idea was primarily to breed for honey-gathering qualities regardless of race, and we succeeded in getting large crops of honey.

Thus we had in our Koch apiary last spring 90 colonies of bees ranging very much in color and, I must agree, more or less in temper. Most of these were fairly strong early in spring, and would have been in the best of shape for a honey-flow. Alas, we expected nothing, since our clover was scarce. We were not mistaken; the dry season burnt up what little clover there was, so that it was necessary to feed throughout most of the year.

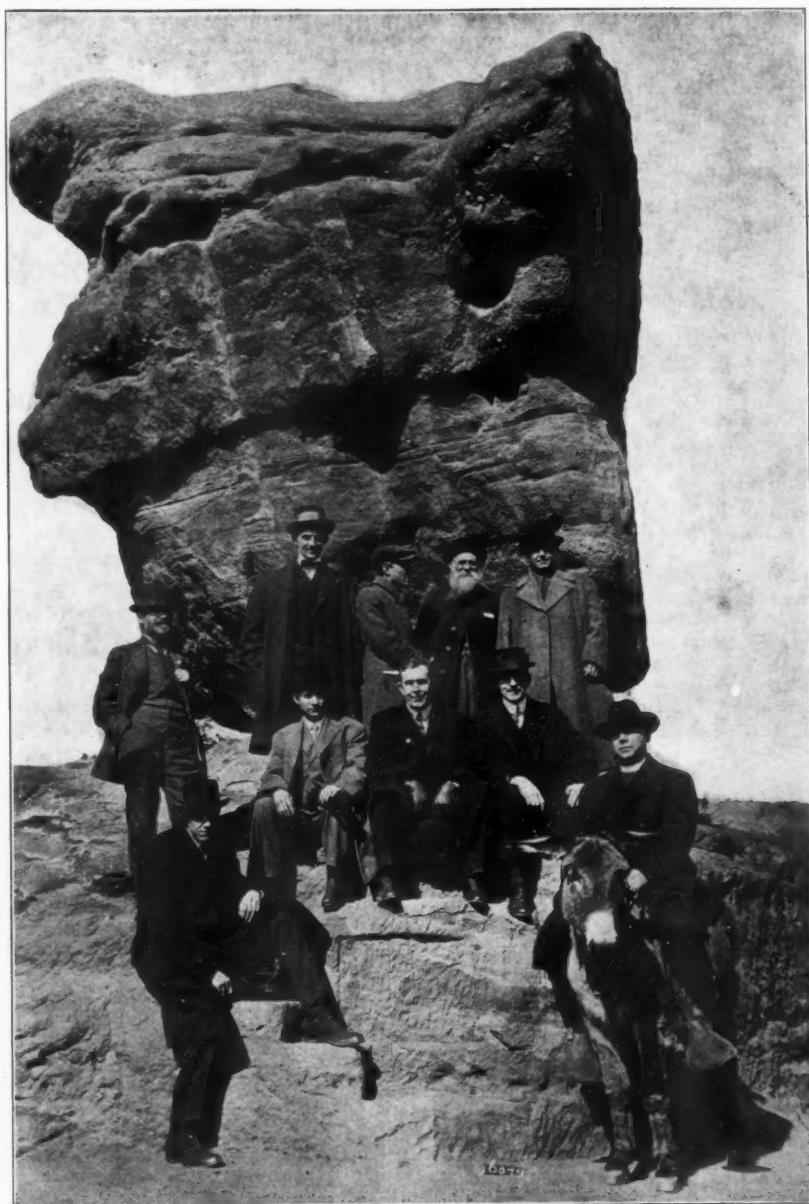
Under such adverse circumstances it seems we had everything in favor of foulbrood, and everything against

European Foulbrood Pointers

BY M. G. DADANT.

OUR experience with this disease is limited to a single year, and to a single apiary, but some points have been so thoroughly fixed in my mind that I think they may prove of value in helping others.

To begin with, we have, in recent years, not tried to have pure Italian stock in our out-yards. In fact, we



TEN OF THE FIFTEEN REPRESENTATIVES AT THE NATIONAL WHOSE HOMES ARE EAST OF COLORADO

Standing left to right, H. Lathrop, A. G. Woodman, F. C. Pellett, E. J. Baxter, J. C. Bell. Seated left to right, B. N. Gates, H. C. Dadant, F. E. Millen, E. F. Phillips. Rev. Francis Jager in the saddle

American Bee Journal

us. Some colonies, breeding earlier, had become very strong, while others, a little slower, were *middling* when the first evidences of European foulbrood made themselves apparent about April 25.

Had we been Dr. Miller, or had we immediately practiced what has been previously written, we would have proceeded to "make our European foulbrood colonies strong," but we wanted the experience, and we got it. One thing we did do, however, as fast as we could, was to requeen the whole apiary with pure Italian stock.

Rather than give a detailed account of what transpired during the season, I will give an illustration showing our method of keeping a record on colonies, then a diagram generalizing the situation for the whole apiary.

Our records are kept on the back end of our deep telescope caps in blue pencil. Under ordinary circumstances the back of one cap will hold the record for two years, when the cap is reversed. Thus, we have three or four years' record by simply observing the cap. The records are not minute; that is, we do not record every feeding, every super given, etc.

Table for the year follows. Remember that we did not usually help weak, diseased colonies with two or three frames of brood unless they were extremely weak, as most colonies were not rich in brood. We did requeen as fast as possible with Italians, thus making the table more against the hybrids and blacks than it might otherwise have been.

From our experiences so far, European foulbrood is much preferable

to American foulbrood. No destroying of combs; an invigoration of stock which, I think, would be a blessing in some apiaries where poor stock is not constantly weeded out, if indeed you could give such a beekeeper credit with ability to catch the disease in time to fight it successfully.

The remarkable points in my estimation are:

1. Colonies should be made strong in order to increase their fighting strength to a maximum.

2. In ten cases, three badly diseased combs were given to *strong* colonies. They did not suffer as a consequence. (This proves the futility of destroying combs in fighting European foulbrood.)

3. Preponderance of Italian blood in those which were either untouched or cured themselves, or overcame the disease given them from another colony. (One Italian queen, after caging twice, was killed. Her colony was made strong, but she did not have the vigor needed, or probably had been injured in transit.)

4. In three cases very prolific queens from diseased colonies were given to healthy weak colonies, either queenless or in which the poorer queen had been killed. Every one developed European foulbrood. A fourth queen from a diseased colony was carried to another apiary 20 miles distant, and immediately introduced to a queenless colony. Again the disease was transmitted.

CONCLUSIONS.

To prevent the disease, keep your colonies strong, headed by vigorous queens. Keep only pure stock, Italian

preferred. (I have no reason to run down other races since we have had no experience with them recently.)

When you have the disease do not destroy the brood combs. Make your colonies strong. Cage the queen 8 to 11 days. If necessary strengthen again, and cage 8 to 11 days again. "Keeping everlastingly at it brings success."

Hamilton, Ill.

Co-operation

BY FRANK RAUCHFUSS.

SOME time ago, wishing to show the benefits of co-operation, we asked Mr. Frank Rauchfuss, secretary of the Colorado Honey Producers' Association, to supply us with some information concerning their co-operation.

The success of co-operation depends in a great part upon its management. Mr. Rauchfuss is an excellent and devoted manager, as all who know him will testify, and if he has found hearty support it shows that his earnestness is appreciated by the beekeepers of Colorado. We believe that Colorado is showing a good example in co-operation.

He has supplied us with the following paper which he read at the National meeting:

WHY WE CO-OPERATED.

One afternoon during the latter part of August, 1896, a small bunch of Denver beekeepers met to discuss their honey crop marketing problems.

The honey business of Denver was then in the hands of the commission merchants, who naturally were only interested in buying at as low a figure as possible, and the beekeepers themselves were helping them to accomplish this with little effort in the following manner:

Some five or six beekeepers would each come in with a load of comb honey. If the market was comparatively bare the first comers might be able to secure a fair figure, but at each successive offer the buyers would be inclined to make lower bids, realizing that these producers would not care to take their loads home again and the buyers would also conclude that, if such a quantity was offered in a day, a heavy crop was being harvested; the statements of the beekeepers reporting a light crop would not be taken seriously. The impression prevailed, among the producers, that the buyers were working in harmony. Whether this suspicion was well founded or not does not matter, but it was a certainty that the beekeepers themselves had a merry war in cutting prices to get rid of their crop, irrespective of what it cost to produce. Result, the crop was often sold below cost of production. None of these commission firms were making an effort to develop a carload trade. Two reasons, and very important ones, that nobody else cared to venture into the honey shipping business extensively were, first, the lack of uniform grading, and second, the absence of a stand-

*E.F.B. 5/18-14 - K.Q.
Laws Q Caged
Released 5/30
OK 6/9. OK 9/15*

KEEPING RECORDS ON THE BACK OF TELESCOPE CAPS

1 A. foulbrood cured by shaking.	
A. J. KOCH	38 healthy
Apiary	
Warsaw, Illinois	
90 Colonies	51 with
spring	E. foulbrood
count	
10 colonies Italians not touched.	
10 colonies given 3 frames bad E. f. b. in place of healthy showed no disease. (2 weaker, similarly treated, caught the disease—all Italians.)	
18 requeened early remained healthy.	
5 Italians (slightly diseased) cured themselves.	
3 cured by requeening with Italians.	
6 cured by giving 3 frames healthy brood after caging had presumably failed.	
28 cured by caging 8 to 11 days and giving Italian queen if they had hybrid.	
3 cured by caging twice 8 to 11 days.	
3 lost by doubling (uniting).	
3 still have it (1 black).	

American Bee Journal

ard size of sections and standard shipping cases. No product subject to variation in weight, flavor, color, etc., can be satisfactorily placed in a distant market, unless well defined rules for grading and packing said commodity are first adopted, then strictly carried out, and most important of all, a line of customers secured who have confidence in the parties offering the goods, that the goods will come up to representation.

All of these subjects were carefully gone over by this little band of beekeepers, and the decision was that first a set of grading rules should be drawn up and later submitted to the Colorado State Beekeepers' Association for adoption; second, that those present would agree to grade by these rules; third, that as soon as possible they would all adopt the $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{8}$ sections and the double-tier glass front shipping cases as their standard; fourth, to appoint a secretary to develop a carload market for their product. To start the ball rolling each of those present contributed the big sum of 25 cents for stationary and postage stamps. The writer was elected secretary, without pay, and instructed to go ahead.

A buyer for a carload was found in a comparatively short time at \$2.40 per case for No. 1, and as local buyers only offered \$1.75 for the same grade everybody was highly elated. The secretary made all the arrangements for the loading, and each producer hauled his honey direct to the car where it was inspected, and each one lent a hand in loading. Within a few weeks after this car had arrived at destination the same party wired for another car. As there was not enough to make a car, others were invited to come in and fill the order.

The following season a store room was rented. This was kept open one day each week during the shipping season to receive honey until carload shipments could be made. The next year steps were taken to incorporate under the laws of the State of Colorado. To comply with the statutes a stock company had to be formed. The capitalization was originally fixed at \$10,000; shares of stock \$10 each, to be sold to beekeepers only.

After some stock had been sold, it was decided to establish a warehouse, carry a complete stock of bee supplies and also supply the local honey market. The secretary was appointed as manager with a small salary.

The policy was adopted of handling bee supplies of highest quality only and selling them at a small margin of profit, not only to members but to all comers, giving the small beginner the same opportunity in buying as the large specialist.

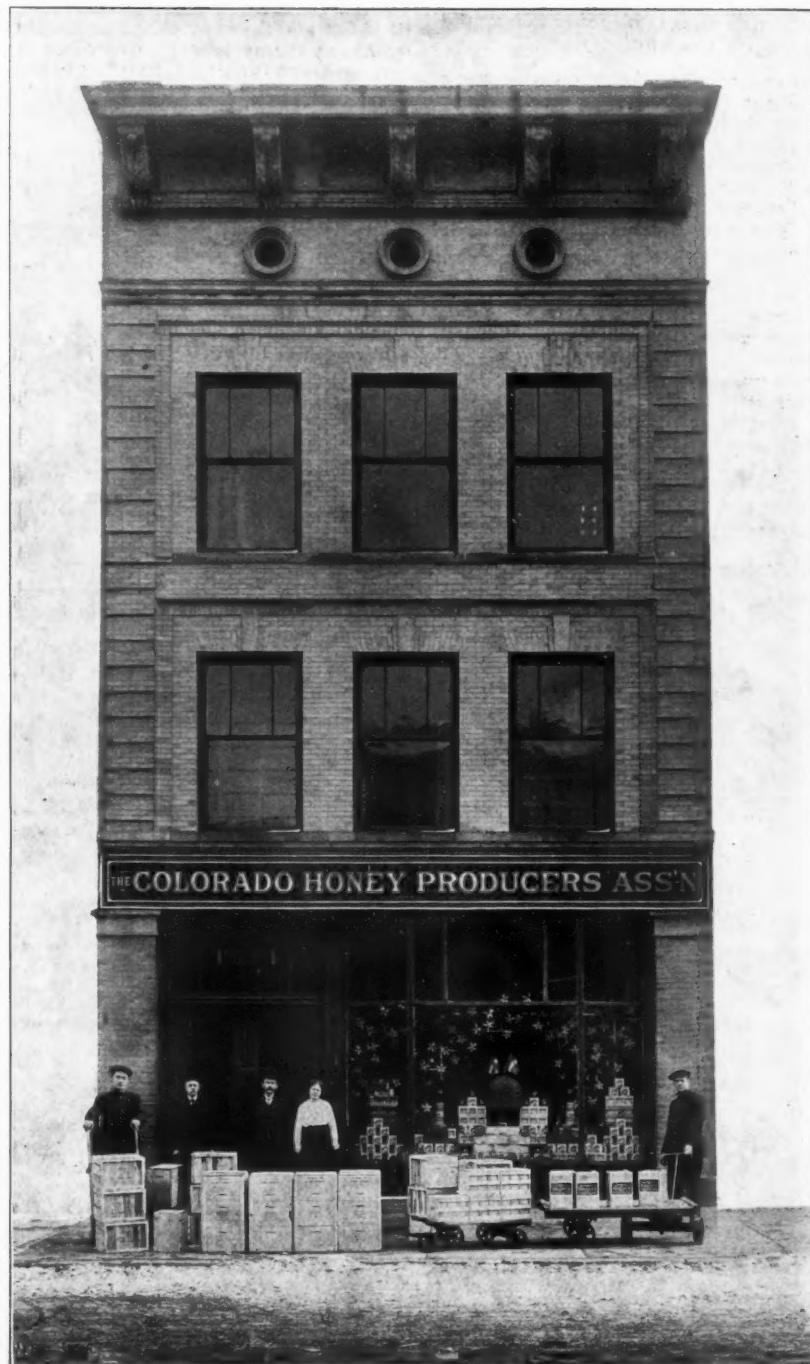
The handling of honey was done on the following basis: Honey received at the association warehouse was stored there, insurance carried on it, local sales made out of such stock, and carload shipments were filled; the association doing all the work and charging 10 percent of the selling price. Carload shipments from the outside points were handled in the following manner: Members at such points would store their honey themselves, carry insurance on it, haul it to the

car to be loaded when ordered to do so and bear all expenses of loading; the manager of the association doing the inspecting of each lot at the car door and supervising the loading, such shipments being handled by the association on 5 percent of the selling price.

To identify each member's honey consignment, numbers are used to stamp on each end of a case of honey immediately above the hand hole, the mark designating the grade is made with lead pencil in each hand hole. (Since the federal net weight law is in force, a somewhat different form of marking was adopted.)

The inspection problem is a difficult one, and has some very unpleasant features to the party entrusted with the enforcement of the rules. It is evident that of the number who are anxious to do a good job of grading and packing, there is quite a percentage who for one reason or the other do not succeed at first. Many of these will conquer the subject after a while, but there is now and then a hopeless case. Central grading stations at the various shipping points, managed by an impartial grader, appear to be the best solution of this problem.

Settlement for carload shipments is made with the members as soon as re-



FRANK RAUCHFUSS AND HIS ASSISTANTS IN FRONT OF THEIR DENVER STORE

American Bee Journal



INTERIOR VIEW OF THE STORE OF THE COLORADO HONEY-PRODUCERS' ASSOCIATION

turns are in. All records are made in duplicate, and each member receives an exact copy of his ledger account. At the end of the year, after inventory is taken, any surplus left, after the dividend on the stock has been declared, is divided among the members that have sold honey through the association, according to the amount of commission paid by them. Taking a series of years, including some very light crops, it has cost our members less than 3 percent to market their crop through the association. The prices obtained are better than those obtained by individuals in nearly all cases. It is proven by the unsolicited increase in membership and the larger amount of honey handled.

Members are not compelled to sell their crop through the association, neither are they compelled to buy their supplies of the association, the utmost liberty is allowed each individual, except that, after having reported their crop to be sold through the association, they should do so. The great benefits of co-operative buying and co-operative selling have been fully discussed, in the past few years, by the press of this country, and it is unnecessary to take up the space here. We have shown in the above that beekeepers can and should avail themselves of the advantages to better their condition.

Denver, Colo.

Texas News Notes

BY E. G. LE STOURGEON.

CONDITIONS in Texas are marvelously encouraging. We have never had a more forward spring nor better prospects. In some of our yards during the last week in February we found conditions pointing to an early swarming season. In one colony there

were two solid frames of drone-brood, capped from top to bottom bar on both sides of each frame. Some neighbors were reporting the presence of drawn queen-cells before the end of February.

Bees consumed less winter stores during the past season than usual. Many beekeepers report having actually more honey in the hives now than when put into winter quarters. At our Loma Linda apiary in Bexar county we found empty shallow supers put on 34 colonies in October to be filled with capped honey on visiting them last week. This apiary is located in an irrigated farm district, and its condition shows that our bees worked practically all winter. The source of this winter honey was apparently broomweed and other varieties of ground flowers growing along the irrigation laterals.

The beekeeping industry in Texas is receiving a great impetus from the agitation of the cotton reduction idea. The farmers whose sole dependence for a cash crop has been the fleecy staple, are facing the necessity of finding some other salable product, and many of them are inquiring about honey production with earnestness. As a matter of fact, the honey producing possibilities of Texas have hardly been touched, and a marked increase in number of colonies operated and men interested will develop from the present situation.

Beekeepers in States farther North who care to try the experiment of buying bees from Texas to be shipped just at the beginning of their honey-flow will have ideal conditions this spring. On account of the open and early season every well cared for south Texas apiary will be overstocked with bees when our first flow has been harvested and these willing workers could be made available.

Should any reader be interested in any question pertaining to Texas bee-keeping or to conditions in the southwest, we will be glad to reply through the columns of the American Bee Journal.

San Antonio, Tex. March 5.

House Apiaries

BY R. F. HOLTERMANN.

No page 45, I notice a letter by Mr. H. Spuhler, of Zurich, Switzerland, upon the subject of "House Apiaries." I read with a good deal of interest European apicultural literature and have done so with profit to myself. I rather agree with the view that in America the house apiary is not the proper thing, if the apiary is conducted on a scale large enough to make a business of it. I have twice had a house apiary. I built a bee house and cellar, the buildings alone costing me over \$1000, and arranged the walls so as to leave an outlet for 50 colonies, but when it came to the practical application I did not have the faith to carry it out. True, the angry bees are often bees that do not belong to the hive we are examining, but quite often they are. If the latter were not the case, then "peppery," irritable colonies would be unknown to us, and every beekeeper worthy of the name knows that he has colonies much more difficult to handle, without being strong, than others.

I however admit that an enclosed place appears to take much of the fight out of them. Here in America, including Canada, to use gloves for handling bees is a rare thing. I have been connected with beekeeping now over 30 years, and have seen a good deal of beekeeping, and during my travels or at home have very rarely seen gloves used in the apiary. They have never been used in my apiaries as far as I know—a lady from England who spent a summer with me had always used them in that land, but I would not relent and allow her to use them. I understood she felt like quitting, but she afterwards thanked me for my persistence. Then a young man from Canada told me afterwards, when he found he would have to work among the bees without gloves, he almost decided to go home. He too, decided I was right.

To work upon the floor upon which the hives are standing, or to have their floor connected with the working floor disturbs them, and I do not want to do this.

THE LEAF HIVE.

As to the leaf hive, I have had them, have some empty now. I feel quite sure that I cannot manipulate frames as rapidly by that method as from above. When it comes to the system of extracting during the honey flow from combs capped, leaving those partly filled behind; with my flow I do not want to adopt that system. I let the supers and frames accumulate until the close of the honey flow and then extract. Even if only capped honey is extracted, this honey is much thinner if extracted as soon as capped than if left on the hive until the close of the

American Bee Journal

honey flow. There is a very marked difference. There is no reason why the honey cannot be extracted warm with our system. When it comes to the quantity of honey extracted, we have extracted on an average 1000 pounds an hour, keeping it up for a day. I feel very sure that is quite outside of the range of the leaf hive.

In regard to wintering bees in houses above ground, as suggested by Mr. Spuhler, a good many of us think that about the worst place for a colony of bees to winter. I have seen several such structures, and in no one case did the bees winter well in them. Where neighbors are close, and the area at the command of the beekeeper is very limited, and not many colonies kept, the "house apiary" may be an important help to overcome difficulties.

Brantford, Canada.

[Location, climate, circumstances of different kinds constitute the reasons for differences of opinions on the subject. Wintering bees in the shelter of a bee house has not proven injurious in our case. On the contrary, the bees wintered best for us in a bee house. But in every other particular, our experience tallies with that of brother Holtermann. We will be glad to hear from others upon this subject.—EDITOR.]

No. 4.—The Honey-Producing Plants

BY FRANK C. PELLETT.
(Photographs by the author.)

CATNIP.

THE mint family of plants is a very large one, with square stems and opposite leaves. Most of the mints are aromatic, and many are used in medicine or cookery. Among the better known mints may be mentioned: lavender, spearmint, peppermint, pennyroyal, rosemary, germander, horsemint, horehound, savory, sage and many others. There are several well-known bee-plants among the mints, two of which will be here considered. The rest will wait until such time as we are able to secure satisfactory pictures, as the chief object of this series is to enable the reader to recognize the plants under consideration.

Catnip, or catmint (*Nepeta cataria*), was introduced from Europe, and cultivated in herb gardens. It is thus an escaped introduction and has become very widely naturalized in the United States. Although it is generally considered a weed, it is usually to be found only in the vicinity of buildings and gardens, and seldom spreads into the fields to any extent. Almost all of us remember the popularity of catnip tea among the grandmothers of an earlier generation. The plant is a perennial growing from 2 to 3 feet high, with flowers in clusters, the more conspicuous ones being in a terminal spike. The blooming season is rather long, and the bees visit it very freely. Apparently the plant yields much nectar, although it is seldom present in sufficient quantity to test its real value as a

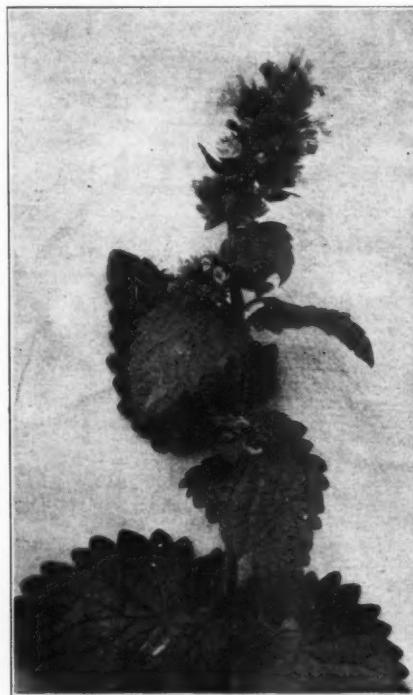


FIG. 17.—CATNIP

honey producer. If it had sufficient value for other purposes to justify its cultivation, it would probably be an important source of nectar.

HORSEMINT.

There are several different species of horsemint (*Monarda*), known also as bee-balm and wild bergamot. Some of the species are represented in nearly all sections from New England to Texas. The photograph shows *M. fistulosa*, the wild bergamot of the North. The corolla is so deep that, as a rule, the bees do not seem to reach the nec-

tar. In some cases it is reported as yielding freely. Whether the corollas are punctured by other insects and the bees are thus able to reach the nectar, or whether the plant secretes so freely as to fill the cup up to the point where the bees are able to reach it, the writer will not attempt to say.

The horsemint of the South is said to be one of the best honey-plants, and is especially valuable in Texas where large yields are occasionally reported from this source alone. It is also reported as common in the southern States east of Texas, though less is heard of the honey production in other sections.

The honey is said to be of good color and body, but strong, although of fair flavor.

The horsemints are widely distributed, and where sufficiently plentiful are regarded as valuable honey-plants.

FIGWORT OR SIMPSON HONEY-PLANT.

Simpson honey-plant, or figwort (*Scrophularia marilandica*), is another very widely distributed plant. It is common in the woods from Maine to the Rocky mountains and south to the gulf. It is also said to occur on the Pacific coast. The same or a similar plant occurs in Europe and Asia.

It is a tall growing plant from 3 to 6 feet high with numerous small branches. The stem is four angled with rather long pointed leaves. The flowers are very numerous and quite small, as will be seen by the picture. It blooms in late summer, and is freely visited by the bees.

HEARTSEASE (*Polygonum*).

We now come to another large family with a variety of names. In some localities one name will apply while in another the plant will be known by an entirely different one. Smartweed, knotweed, doorweed, persicaria, lady's thumb, water pepper, heartsease, and several other names

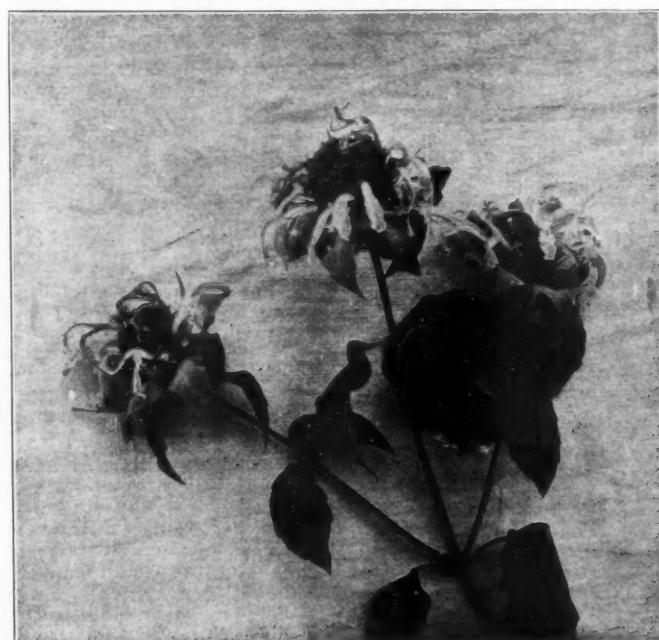


FIG. 18.—WILD BERGAMOT OR HORSEMINT

American Bee Journal

are applied to these plants. They are widely distributed, covering practically all of the United States and Canada, as well as much of Europe and Asia. *P. persicaria* or lady's thumb, the large flowered kind is most often called heartsease, and is also said to be the best honey producer. It is an introduced species, coming from Europe, and is still widely scattered through the sale of clover seed, the seed of this plant being common with red clover seed.

The honey gathered from these plants varies greatly, both in quantity and quality. Some species do not seem to yield at all, or at least not regularly, while others produce large quantities of nectar. The blooming period in the North is from midsummer until frost, and occasionally large yields are reported, an average of 200 pounds per colony not being the highest on record, from this source alone. Sometimes honey from these plants is of very good quality while from other species it is very dark and of poor quality. The better grade honey is sometimes designated as heartsease honey, while the poorer grade is called smartweed honey.

These plants grow in moist fields everywhere, and frequently come up in grain fields late in summer after cultivation has ceased, thus offering plentiful forage for the bees, in fields where otherwise they would find nothing.

Figure 20 shows two of the common kinds.

Atlantic, Iowa.

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Bees as a Nuisance

BY S. D. GUSTIN.

INCREASING population, greater dissemination of knowledge, and the development and specialization of industries, pursuits, and occupations combine to add constantly to the complexity of the relations of individuals, and to call, from time to time, for the readjustment of the affairs of men to meet changed and changing conditions. In no other branch of the law is the ingenuity of the courts more heavily taxed in this manner than in the subject of nuisances, where, from the very nature of the subject, first principles, rather than specific legislative enactment, must always exert a controlling influence. The lawmaking power may, as occasion seems to require, declare that particular objects, actions, omissions, etc., shall be nuisances, either with or without regard to attending conditions or circumstances, but the application of such statutes is necessarily so limited that the general law of the subject is not affected.

It therefore follows that courts still deal with nuisances largely from the principles of the common law, and it is a matter of serious doubt whether, in any instance, specific legislative action can be proven to have any substantial value as an addition to the law of the subject. A nuisance at common law is that class of wrongs that arise from unreasonable, unwarrantable, or unlawful use by a person

of his own property, real or personal, or from his own improper, indecent, or unlawful personal conduct, working in obstruction of or injury to a right of another, or of the public and producing such material annoyance, incon-

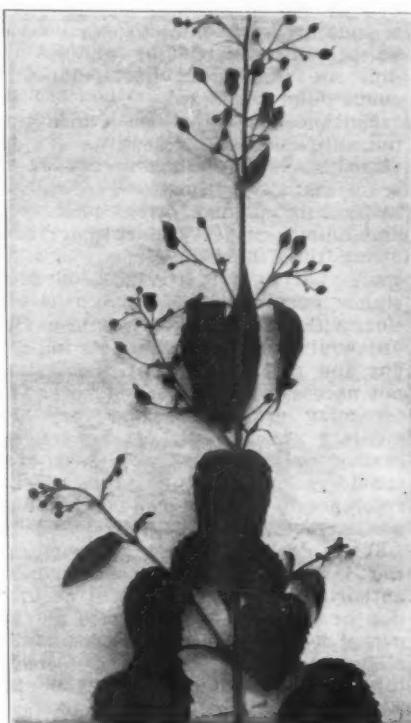


FIG. 19.—FIGWORT OR SIMPSON HONEY-PLANT

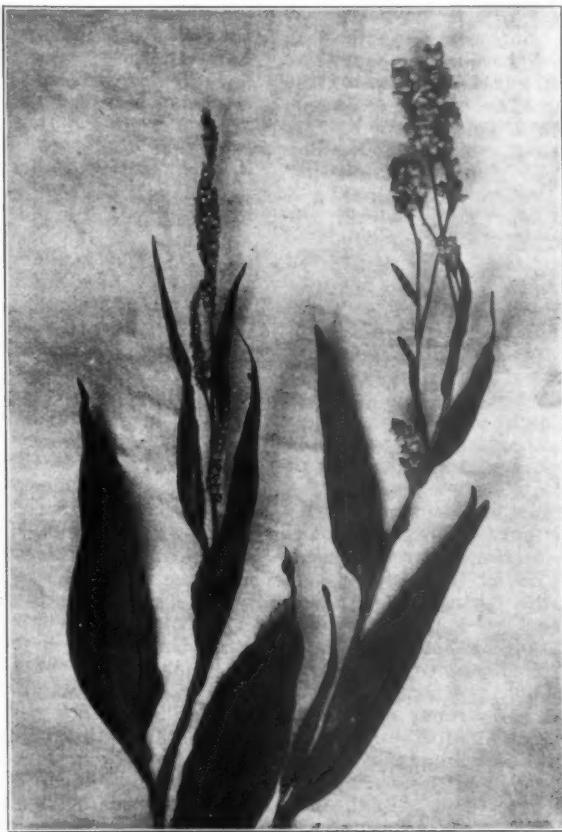


FIG. 20.—HEARTSEASE OR SMARTWEED

venience, discomfort, or hurt that the law will presume a consequent damage.

Text writers and legislative enactments state many variations of the foregoing comprehensive definition from Mr. Wood's treatise on nuisances, but there is no substantial disagreement as to what constitutes a nuisance. Another definition, stated broadly as a general proposition, is that every enjoyment by one of his own property which violates in an essential degree the rights of another is a nuisance; and this substantial violation of a right is the true test of a nuisance, for it is not every use of his property by one which works injury to the property of another that constitutes a nuisance. Injury and damage are essential elements of a nuisance, but they may both exist as a result of an act or thing which is not a nuisance because no right is violated. On the other hand the pecuniary injury may be insignificant and the act or thing causing them be such an invasion of the rights of another, or of the public, as to constitute a nuisance for which an action for damages or for abatement will lie.

Nuisances are classified by the law as public and private, and there is authority for a third class called "mixed" nuisances. A nuisance is public where it affects the rights of individuals as a part of the public, or

American Bee Journal

the common rights of all the community alike; a private nuisance is one affecting a single individual, or individuals of a particular class, group, or locality, in a private right; the third class, referred to as mixed nuisances, are public in their nature, but at the same time specially injurious or detrimental to one individual or more in particular, who suffer a different or greater hurt than the community in general.

Nuisances are further divided into nuisances *per se*, or such as are declared so by the common law or by some statute, without regard to locality, surroundings, or circumstances, and nuisances *per accidens*, or those owing their hurtful consequences to some particular attendant circumstance, surrounding, location or condition, without which they would not be unlawful. There are other less important and rather technical distinctions not necessary to be noticed here. The foregoing preliminary and very elementary observations of the general law of nuisances are necessary to a consideration of any subject with reference to its existence as a nuisance or otherwise.

It is also a frequent statement of the law, and may be accepted as authoritative, that no lawful occupation or business is a nuisance *per se*, except it be declared so by some special enactment prohibiting certain things as objectionable to particular localities. So also the reasonableness of the use of one's property may depend upon its situation, for what might be lawful in one locality would prove intolerable in another. The use of a building in the midst of a city densely populated for a storage house for hardware would not be objectionable in the slightest degree, while the use of the same building for the storage of gunpowder or other high explosives could not be permitted.

The common law, proceeding from fixed principles of universal application, and developing from the growth of civilization, has, in each succeeding period, found ready adjustment to new subjects resulting from the widening dominion of mankind over the creatures and forces of nature, furnishing a ready remedy for every wrongful encroachment of one upon the rights of another. In the times of the early law writers bees were most generally known as they existed in their original state. Hence they were called—*ferae naturae*—and classed as wild animals. A property right, or at least a qualified property right, in them could be acquired by capture, which, in accord with the general rule concerning wild animals, existed so long as the captor could hold them in possession. A distinction seems always to have been made between the possession of animals ferocious and those of gentler dispositions, and it was indictable as a nuisance to permit an animal of known mischievous disposition to go at large. Bees, however, seem never to have been regarded as ferocious or as likely to do in-

jury to persons or property, and in the far greater number of instances in which they have been the subject of judicial consideration the questions at issue have concerned the property interests in them. It is doubtful now, however, if any court would denominate them as wild animals, in view of the present general state of development of the industry of honey production and the numerous instances of State legislation designed to promote and protect the breeding and rearing of bees for that purpose. In the one or two cases decided in American jurisdictions in which the question has been presented, it has been determined, in accordance with the rule above referred to, that the keeping of bees, even in large numbers and in towns and villages, is not a nuisance *per se*.

But greater interest, perhaps, centers in the question of whether or not bees may be so kept as to constitute a private nuisance, and also whether municipal corporations, as cities and towns, may restrain or prohibit their presence within the corporate limits. In answering the first proposition, it must be borne in mind that persons who dwell in urban communities must of necessity submit to such restrictions upon their absolute liberties that the dwellings of other persons therein shall be tolerable. As it is the unreasonable or unwarrantable use of one's premises or property, otherwise lawful, that contributes an essential element of a nuisance, a first inquiry in any case would be directed to this point of reasonableness of the use or occupation, and in determining this all of the surrounding facts and circumstances would enter into the consideration. The presence of one colony at a given point might be perfectly consistent with the due observance of the rights of the owner of the next lot, while a colony stationed at another point within the same distance would be obnoxious to the law. Again, one colony at a given place might pass unnoticed, while a number of colonies at the same place would be a nuisance. The habits of the bees, the line of flight, the temper and disposition of the colonies, either separately or when collected together in numbers, might all furnish matter of more or less weight in reaching a conclusion. So also the character of the annoyance or injury done to the complainant must be a substantial element. In the only reported case involving this question it was charged, and the court found there was proof, "that during the spring and summer months the bees so kept"—140 colonies on an adjoining city lot and within 100 feet of plaintiff's dwelling—"by defendants greatly interfered with the quiet and proper enjoyment and possession of plaintiff's premises, driving him, his servants and guests from his garden and grounds, and stinging them, interfered with the enjoyment of his home, and with his family while engaged in the performance of their domestic duties, soiling

articles of clothing when exposed on his premises, and made his dwelling and premises unfit for habitation." These facts were held to constitute a nuisance, against which the plaintiff was entitled to injunction and nominal damages. These facts just recited, however, probably present an extreme case, the immediate proximity of so many colonies being, no doubt persuasive evidence that the annoyance suffered by the plaintiff was due to the defendant's use of his premises. Greater difficulty would be experienced in reaching such a conclusion if there were no colonies stationed in the immediate vicinity, a thing entirely possible under the common belief that the insects go considerable distances for their stores.

So it may be said of bees, as of other property, that no hard and fast rule can be laid down by which to determine in advance whether the presence of bees in any given numbers or at any given point will amount to a nuisance. But, not being a nuisance of themselves, as a matter of law, and absent also any general State enactment declaring them to be such, bees will not, under any circumstances be presumed to be a nuisance, but the matter will rest in the proof adduced, with the burden upon the party alleging the affirmative. But they may, upon proof of particular facts showing all the elements necessary to the existence of a nuisance, be condemned as such, either of a private or public character, as the nature of the injury might decide.

Predicated upon the theory advanced in the beginning that courts would now, if the matter were called in question, decide that bees are domestic animals, and it having already become a matter of legislative recognition that they are subject to communicable diseases, a question arises as to the liability of the keeper of diseased bees. At common law it was an indictable offense, which has been re-enacted by statute in most of the States, to take a domestic animal suffering from a communicable disease into a public place or to turn it into the highway so that the disease might be communicated to the animals of other persons. It could hardly be said to be less culpable to knowingly keep diseased bees, which, by their nature may not be restrained or confined, to spread disease to the apiaries of other owners. If to turn a horse with glanders or a sheep with footrot into the highway is a public nuisance, on the same reasoning to turn bees at large to carry communicable diseases peculiar to them to other bees ought to be an offense of the same grade.

The power of a municipal corporation, as a town or village, to restrain or prohibit within its limits the keeping of bees, or to denounce them as a nuisance, is commonly reported as a fruitful source of vexation to keepers of bees, but one case only is reported as involving a judicial determination of that particular point. And here,

American Bee Journal

too, a few preliminary observations will be necessary to a proper understanding of this phase of the nuisance laws. Cities, towns, and villages, as municipal corporations or public bodies, receive their powers by express grant from the legislative authority of the State, and with the exception of some unenumerated powers without which the corporate body could not exercise its essential functions as such their powers are limited to those expressly named in the grant. This grant of power is usually contained in the general laws of the State governing cities, towns and villages, and is called the charter power, the law or statute itself being usually known as the charter. Keeping these facts in mind will aid the unprofessional man in understanding the terms to be encountered in an examination of local laws in regard to the power of a municipal corporation to legislate upon this subject.

Every State has its own peculiar policy toward these municipal corporations, and no two are exactly the same. They all, however, follow the same general plan, with variations influenced by local conditions. As the power of the State legislature is limited that its acts must be consistent with the constitution, so the power of a municipal corporation to make by-laws, as its ordinances or enactments are commonly known, must be in harmony with its character, with this further distinction, that while the legislature of the State may exercise unlimited discretion in all matters not prohibited by the constitution, a municipal corporation is restricted in legislative action to those matters in which it is expressly authorized by its charter.

It is the general rule that cities, towns, and villages have conferred upon their common councils power to declare, abate, and remove nuisances. In the case of nuisances *per se*, whether at common law or by statute, or by ordinance in those cases in which the council may declare such nuisances, the power to abate by summary action is either expressly given or exists by necessary implication. Summary abatement means arbitrary removal or destruction without judicial process. Nearly, if not quite, all city charters contain grants of power to license, regulate, and restrict all businesses, pursuits, and avocations, and also a section known commonly as a general welfare clause, by which the corporate body is empowered generally to enact such ordinances, rules and regulations as may be necessary to preserve the peace, safety and health of its inhabitants and promote their general welfare. To undertake to set out the specific provisions of the charter of the municipal corporations of the various States would extend this article far beyond its intended scope.

It is a cardinal rule of the courts that all ordinances must be reasonable, and that while a city may de-

fine, classify, and enact what things or classes of things shall be nuisances and under what conditions and circumstances such things shall be deemed nuisances, this power is subject to the limitation that it is for the courts to determine whether, in a given case, the thing so defined and denounced is a nuisance in fact, and that if the court shall resolve this point in the negative the ordinance is invalid. Under this rule, in an Arkansas case, it was held that the municipal corporation could not prohibit the keeping and rearing of bees within its limits as a nuisance regardless of whether they were so in fact or not. And this case seems to have been received as announcing the correct rule in recent text works, though the point has not been raised elsewhere in controversy.

Under the rule just stated, the pow-

er of summary abatement would not exist, even though the presence of bees in a particular part of the city should be declared objectionable, but the point would rest as has been heretofore observed in the proof adduced, the burden being upon the party declaring the affirmative of the issue.

(The foregoing question of "Bees as a Nuisance" so ably treated in this article was settled a number of times in the courts. We will in our next number republish the report upon this subject, made in 1890, by Thos. G. Newman, then General Manager of the National Association and editor of this magazine. It is very concise. There was also published, in 1904, by Mr. N. E. France, the last General Manager of the National, a very exhaustive pamphlet of 38 pages, entitled: Legal Rights. This might be worthy of a reprint. Editor.)

DR. MILLER'S ANSWERS~

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Red Clover Bees—Comb or Extracted Honey?

1. What race of bees, if any, works on red clover?
2. What is the best way to prevent swarming, my bees are in 8-frame hives?
3. Can I take a colony and make four or five out of it and put a new queen in each; if so, how?
4. On which can I make the most, comb honey at 15 cents a pound or extracted at 11 cents?

ANSWERS.—1. There is no particular race of bees that works on red clover. Sometimes the blossoms are shorter than usual, or more full of nectar, and then bees of any race may work on it. At different times bees have appeared with tongues long enough to reach red-clover nectar, but the strain seems to work back pretty soon to shorter tongues.

2. I'd give a pretty penny to know. Perhaps as good a way as any is to run for extracted honey and use the Demaree plan; as soon as danger of swarming, put all but one frame of brood in an upper story over an excluder, killing any queen-cells, and leave the queen in lower story with the one brood.

3. You may do it in a good season. One way is to wait until the colony is *strong*, then take a little more than half the brood and bees and put in a new hive on a new stand, giving a new queen and leaving the old queen on the old stand. When each of these becomes strong, divide again the same way.

4. Likely out of the extracted.

Foundation Splints—Inducing Queen to Lay

1. Next year I wish the bees to draw the foundation into combs and build to the bottom-bar a good many wired Langstroth frames; the same combs to be used the same year to make increase. How can I best accomplish it?
2. I am bothered to get the queens to lay in combs that have been extracted from, without a honey flow and even with one. Under what condition can I induce queens to lay in them?

ANSWERS.—1. I experimented a great deal upon this very thing, and succeeded in no

way so well as by using foundation splints, having the foundation come clear down to the bottom-bar, and allowing the bees to have the foundation only when something was coming in from the field. The use of these splints has been fully explained in previous numbers of this journal, and also in the book "Fifty Years Among the Bees." The frames may be wired, but it is not necessary.

2. I don't know just what the trouble can be. The queen ought to lay in such combs any time she needs room to lay, unless you put them too much out of her reach. They should be put next to combs already occupied with brood.

The Alley Trap—Mixing Races of Bees

1. If I use an Alley trap on a hive and the colony should swarm while I am away for a few days, will they stay around or near the hive any length of time, or will they leave if not hived the same day?

2. Would there be any objection to keeping one colony each of Italians and Carniolans near each other? Would it harm either one, cause mixing or trouble? I would like to try both breeds.

NEW YORK.

ANSWERS.—The trap holds the queen, and when the swarm finds it has no queen it will return and await your pleasure.

2. There will be no trouble until a young queen is reared in either hive, and then it may not be purely mated. Likely it will not anyhow, since bees of other breeds are likely within a mile or two.

Bees Restless in Winter

I have two colonies of bees I moved 14 miles last December. I packed them in chaff about 3 inches thick, and they have plenty of honey. They seem restless and come out of the hive when it is 20 degrees below zero. What is the cause of this? Are they too warm?

PENNSYLVANIA.

ANSWER.—The likelihood is that not very many bees are coming out, and a very few need cause no alarm. If the number is considerable it may be that a mouse in the hive

American Bee Journal

is disturbing them, or that they are troubled with diarrhea. In the latter case a good flight the first warm day will cure them, unless, indeed, they have unwholesome stores which will keep up the trouble more or less until warm weather comes.

Shallow Divisible Hives

For some time I have been reading periodicals and catalogs treating on bee-hive equipments and their relative merits. I have decided that a divisible hive consisting of shallow frames and supers, one, two, or three, according to the strength of the queen, is about what I want. Is it a practical combination? I see in the A B C and X Y Z of Bee Culture a divisible hive used by J. E. Hand that looks good. Does he still use a divisible hive and recommend it? I see in the American Bee Journal he uses a 16-frame hive. Is it brought about by vertical or horizontal expansion? The first by placing eight frames on top of eight or side by side, sixteen in all. I wish to winter out-of-doors, and think I can make a warm hive of the shallow frames and supers by contracting the brood-nest horizontally with a tight division-board on each side and packing between them and the outside; the ends being closed.

ONONDAGA.

ANSWER.—I doubt the advisability of your trying shallow or divisible chamber hives. To be sure some good beekeepers use them, but the majority of beekeepers prefer a frame not less than the Langstroth, and some like a still larger frame.

Position of Frames in Nuclei

In making nuclei, which of these methods would you recommend:

1. Two frames of brood, then one frame of honey, then division-board, all at one side of the hive body, with rest of space vacant?
2. Two frames of brood, one frame of honey, at one side of the hive body, with rest of space filled with frames of foundation?
3. Two frames of brood in center of hive, frame of honey on one side, frame of drawn comb or honey on the other, with frames of foundation in rest of space?

If your practice is different from any of these will you please give it? ILLINOIS.

ANSWERS.—1. If I were to choose between the three, I think I would take the third. But I think I would not have the brood in center of hive, but put the honey at one side, then the two frames of brood, and then the drawn comb (either empty or with a little honey). Then I would add comb or foundation as needed, preferring the comb if available.

Transferring—When Does Brood-Rearing Begin?

1. When is the best time to transfer bees out of old box hives into modern ones?
2. When does the queen begin laying in the spring? TEXAS.

ANSWERS.—1. The favorite plan nowadays is to wait until the colony in the box hive swarms, hive the swarm in an up-to-date hive, setting it on the old stand and the old hive on a new stand, and three weeks later, when all the worker brood has hatched out, transfer what is left in the old hive, or else melt up the old combs and give the bees to the swarm.

2. In a colony wintered outdoors she begins, in the north, in February, or even in January. In Texas probably earlier. If cellarared, she begins about the time bees are taken out of cellar.

Dividing to Prevent Swarming

My start was made in 1913, when on July 3 I found a swarm in a large oak, which we hived July 25. By feeding sugar on warm winter days they came through strong. The hive they were in was a 10-frame. As I had no honey-board I gave them an upper story which the queen proceeded to fill with brood, although I took some very fine honey.

As the bees increased rapidly, and would cluster out some, I decided to give more room and gave them a 28-section super between the stories which they began to fill nicely. After this they began again to cluster out on hot days, so I provided shade which did not seem to help matters; so I decided to take some brood, as I wished to keep down swarming.

I found a nice ripe queen-cell below while the old queen was above. Now I did not get to ascertain what would have occurred, as they were so close to the highway that they had to be moved, which was done with fatal results to the colony, although I was not much surprised as it was too hot, and I had to keep them confined in the hive to avoid further trouble. I think I should know better now, as I would remove the lid and put on a screen and thus provide plenty air.

1. Now what I wish to know is, had I put on a honey-board would it have proved all right, and what would have happened when the new queen emerged? Could I have set off the story and had two colonies? If this were feasible you see it would save rearing a queen.

2. Yet I am not without bees, as my neighbor who has several swarms gave me one when they swarmed. This swarm I divided, having them rear their own queens, and by giving them the old combs left from the other colony, I have four which went into winter with hives full, but only eight frames each. I have thought of giving them, in spring, each two stories for brood and then setting off and forcing most of the bees back in a single story with plenty of super room, and using the remainder as nucleus for increase. Would this be all right, and would you think it all right to give each colony a frame of young brood to rear a queen or a frame with ripe cell, and let the queen go with the nucleus?

3. Do you think this plan would save watching them so closely? I do farming also trucking, and can not give much time to bees.

OHIO.

ANSWERS.—1. I am not at all sure that putting on a "honey-board"—by which I suppose you mean a queen-excluder—would have made any difference. The super of sections acted a good deal as a queen excluder, as a queen is not likely to go through a super of sections to get into another story. When the young queen emerged below she might have issued with a swarm, although like enough she might have gone to laying below, and then you could have set off either story on a new stand as a separate colony. Or, you might have set on a new stand the lower story before the young queen emerged. But if you had put the queen in an upper story, with an excluder under, without the section super, it is not so certain that queen-cells would have been started in the lower story, since the distance between the two stories caused by the intervening section super is an important factor in making the bees feel queenless in the story without a queen. An objection, however, to having

a section super under brood-combs is that the sealing of the sections will be darkened.

2. If you should take the queen away, and leave on the old stand a hive full of brood, the bees would be pretty sure to swarm with the first virgin emerging. But they would not be likely to do so with only a single frame of brood.

3. Yes, if you should leave on the old stand a single frame with only one queen-cell on it, you would not need to watch for swarming.

Bees in Chimneys, Etc.—Finding Bee Trees

1. How can I get a swarm out of a chimney? It is about 50 feet high. I do not like to ascend by means of a ladder, as some of the bricks near the top are loose.

2. Seeing one of your answers in the Bee Journal about getting a swarm out of a house, I would like to know if there is any danger of horses being stung, as a road runs about 3 feet from the house?

3. Do forest fires kill bees?
4. How can bees be hunted?

NEW YORK.

ANSWERS.—1. More than once I have had bees offered to me for nothing if I would take them out of chimneys, but always declined the offer, as the bees are not considered worth the trouble. If you can't get up with a ladder I don't know how you can get them.

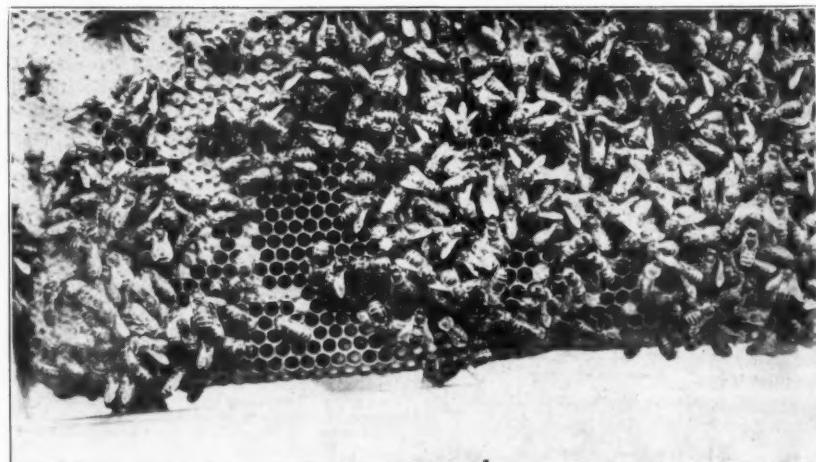
2. If the entrance of the bees faces the road, and it is not more than 6 feet high, there is danger; otherwise the danger is small.

3. Yes.

4. Set a bait of honey, and watch until bees fill themselves with it and fly away, and the direction they fly will indicate the direction of their home. Move your bait farther along in that direction and watch again, and so on until the bees fly back on their track, and then scan the trees between the last two places. Instead of direct lining, as described, you can cross line. After getting a line on their flight, instead of moving your bait in the same direction, move it a little farther along to one side, and at the point of intersection of the two lines you should find your bee tree.

Requeening from Prolific Stock

I introduced three Italian (golden) queens to three colonies last September. All colonies had an equal amount of bees. Two of the colonies are doing finely and are strong, while the third colony hardly has as many bees as it had when I introduced the queen, and they have very little brood. I only let mine have five frames and a follow board.



THE QUEEN ON A COMB OF BROOD AND BEES.—(Photo by J. L. Leath.)

American Bee Journal

1. I want to destroy that queen and give the colony a frame of unsealed brood with adhering bees from one of the other colonies, which is very prolific. None has yet a queen-cell; will it work all right?

2. Should I shake some bees from another frame into the weak hive will they be accepted with a flight, and where should I place the frame of brood, in the middle of the hive or at one side? The bees have plenty of stores. I fed them all winter on sugar syrup, two to one, and they have it sealed in their frames. One colony is so strong that I had to place another 10-frame hive on top, and that is the one from which I would like to get a queen for the weak colony?

3. When is the best time to make this change?

CALIFORNIA.

ANSWERS.—1. It may and it may not. If you leave their old brood and merely add another frame of the brood of better stock, the chances are three to one that the young queen will be of the old stock. You can take away all the old brood and leave them only the one frame of choice brood, or you can, a week after killing the queen, kill all cells started, and then give them the frame of choice brood. Still another way, and a good way, is to swap their frames of brood for an equal number from your best stock.

2. Of course the colony will be stronger, and all the more likely to rear a good queen if you strengthen it with bees from another colony. There is not likely to be fighting, especially if the bees be given a day or two after the queen is removed. Put the frame of brood in the middle.

3. You can operate any time after the bees get well to work.

Queening—Which Hive to Use?

1. If I introduce an Italian queen into a black colony of bees, will its offspring be pure?

2. I have 13 colonies. How many queens ought I to get to Italianize all of them?

3. Will they breed the blacks out?

4. Which hive do you think the better, the 8 or 10 frame?

KENTUCKY.

ANSWERS.—1. When a new fertilized queen is introduced all the bees in the hive will be of the new stock just as soon as the offspring of the old queen have died off, and in the busy season that will be in about two months or a little more. If the new queen is pure Italian and purely mated, then all the new workers will be Italians.

2. It will take 13 queens, one for each colony, to Italianize them, if you want the change in blood to take place at once. If you will take more time to it, you can Italianize one or several at the start, and then from this new stock rear queens for the rest.

3. On the contrary, the blacks are likely to run out the Italians, especially if blacks are in the neighboring apiaries all around you. To keep up your stock it may be necessary for you to get one or more queens of pure blood every year or two, at least for some time.

4. Generally the 10-frame.

Transferring by the Swarm Method

I have 25 colonies in old box hives that I wish to transfer this spring. I bought them in November, 1913, and thought I would transfer them last spring, but a severe drought came on early in May, then I waited until June 1, thinking they would build up and get stronger. I transferred one June 1, by the Wilder plan but they started robbing and I had to stop. I have looked through my old bee journals back to 1909, but cannot find just what I want. I would like to transfer them on full sheets of wired foundation and not give them any of the old comb. Can I do this, and if so when would be the best time? I have kept bees eight years, and have 81 colonies.

ARKANSAS.

ANSWER.—Likely this plan may suit you:

Wait until the colony swarms; then hive the swarm in the new hive filled with its frames of foundation, set it on the old stand and set the old hive close beside it. A week later move the old hive to a new stand six

feet or more away. Two weeks later still at which time all the worker brood will have hatched out break up the old hive, adding the bees to the swarm, and melting up the combs.

REPORTS AND EXPERIENCES

Recreation for a Postal Clerk

In the cut you can see my apiary in the rear of my back yard in this little city of 6000. My bees do not cause any annoyance to my neighbors and are very profitable, and working them provides me a very much needed outdoor exercise.

I have been reared among them, and early in life learned to love them. My first experience was with the common black bee and the round log and box-hives. As I learned them and began to study books on the subject, I determined some day to have an apiary with the very best hives and the best stock of Italian bees. This I now claim to have.

With this small lot of pure three-banded Italians, we have all the honey our family will make use of and some to spare. I have taken great pains in selecting my queens, and have discarded every one that does not give the very best results.

I procured my stock from some of our best breeders. We are not in the very best honey location here, but my home and business are here, and I work my bees during spare time. You can see in the cut a 6-foot fence that I erected so that my bees would not bother my neighbors. My banner colony last year gave me \$12 worth of surplus at 20 cents per pound.

J. L. LEATH.

Corinth, Miss.

Mr. F. Wilcox Reports

Bees appear to be wintering well here. There is some European foulbrood in this county yet.

F. WILCOX.

Mauston, Wis., Feb. 15.

Bees in Carolina

I have just returned from southeastern North Carolina, and can give our friend in England, on page 64, an answer. I was there nearly three weeks. I saw, on Feb. 12, hatching brood; the maple, violets, and jonquils were in full bloom; the roses and

wild plums were budding. The bees were working as busy as in the main honey-flow. I visited several beekeepers, and saw at some hives combs built under and on the sides. One swarm had its home on a limb of a tree. Of course, they were sheltered to keep the rain off; they are there more for curiosity than for anything else.

I saw several old-fashioned log-hives, some had cracks from top to bottom the size of my two fingers, and wintered through all right, and had sealed brood to the bottom. The beekeepers expected swarms in March. The locality is full of gooseberries, huckleberries, blackberries, black gum and other wild honey plants. I aim to move there as soon as I can.

PETER SCHAFFHAUSER.

Indianapolis, Ind., March 3.

Look for Good Season

The indications are for a good honey year. The bees were carrying in pollen on Washington's birthday. All colonies are alive and doing well. We are in hopes of having a very prosperous season.

W. H. POOLE & SON.

Yonkers, N. Y., Feb. 25.

Spraying During Bloom

It will soon be time for spraying. For all fungus diseases on fruit trees, spraying should be done early; that is, before blooming time, and before the leaves are out. The material usually used is the lime sulphur mixture or Bordeaux mixture. If spraying for the insects that get into the fruit, especially the codling moth worm, this should be done not sooner than after the bloom has fallen.

I have the life history of the codling moth by Prof. M. V. Slingerland, of Ithaca, N. Y., and Prof. Fabian Garcia, of Santa Fe, New Mexico. While the last mentioned is located so far south, yet his account and Prof. Slingerland gives nearly the same time for the codling moth to first make its appearance



APIARY AND HOME OF J. L. LEATH AT CORINTH, MISS.



American Bee Journal

in the spring. The first appearance is never before the blooming time in any appreciable numbers; in fact, they cannot appear until it gets warm enough for flight. In all cases of observation by these two gentlemen, no eggs for the worms appeared until the bloom had fallen, and in most cases not until some time after.

It is now conceded by leading fruit men that spraying should never be done while the bloom is out, as the poison destroys the embryo fruit itself. Some years ago, when the writer was at the Missouri Horticultural meeting at Moberly, a paper was read, and the writer stated he did not know why he should not spray in blooming time, as he considered his fruit interests worth more than all the bees in his county. He had done so, but for some reason had but little fruit to set that year. It was explained by Dr. Scott, from the experiment station at Washington, D. C., that to spray during bloom would destroy the prospect for fruit.

If any are interested, I would recommend their sending for the bulletins by the above mentioned authors, Bulletin No. 142 of January, 1898, Ithaca, N. Y., and Bulletin No. 65 of May, 1907, Agricultural College, New Mexico, Mo.

J. W. ROUSE.

Late Spring in Arkansas

The spring has been one of the latest of which I have any record. February, through which bees generally gather much pollen and make a good start at breeding, offered scarcely a day upon which they might fly. The first pollen was found Feb. 11, and some sealed brood noticed on the 25th. Today, March 2, soft maple is yielding pollen. Fruit bloom, our first nectar supply, seems remotely distant, but may thereby escape destructive frosts. The past winter has been ordinary. I have not lost a colony.

Ft. Smith, Ark., March 2. L. E. KERR.

Classified Department

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

BEES AND QUEENS.

PHELPS' Golden Italian Queens will please you.

BEES AND QUEENS from my New Jersey apiary. J. H. M. Cook, 1 Attn 70 Cortland St., New York City.

GOLDEN all-over Queens. Untested, \$1.00. Tested, \$3.00. Breeders, \$5.00 and \$10. Robert Inghram, Sycamore, Pa.

CAUCASIAN AND CARNIOLAN queens from the original importer. See larger adv't. Frank Benton, Cher. Sta., Washington, D. C.

QUEENS—The quality kind, 3 band Italians only. Winners at Hartford and Berlin, 1914. Untested after June 1, \$1.00. A. E. Crandall & Son, Berlin, Conn.

ITALIAN QUEENS, bees by pound. Descriptive list free. Apriaries under State inspection. Leaflets, "How to Introduce Queens," 15c. "How to Increase," 15c. Both, 25c. E. E. Mott, Glenwood, Mich.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Goldens and their honey-getting qualities. Price, \$1.00 each: Tested, \$2.00; Breeders, \$5.00 and \$10.00. 2 Attn J. B. Brockwell, Barnetts, Va.

WANTED—To send our list to you of our famous honey gathering and almost non-swarming strain of Golden queens. No better bees of any strain to be found. One fr. untested, \$1.00; 6 for \$5.00; 12 for \$9.00. Write us what you want. T. S. Hall, Talking Rock, Ga.

PHELPS' Golden Italian Bees are hustlers.

BEES, \$1.50 per pound; with queen and fr. brood, \$2.50. C. H. Cobb, Belleville, Ark.

VIGOROUS PROLIFIC Italian Queens \$1.00 each; 6 for \$5.00. A. V. Small, 2302 Agency Road, St. Joseph, Mo.

ARCHDEKIN's fine Italian queens and bees. See larger ad. in this issue. J. F. Archdekin, Big Bend, La.

NOTICE W. W. Talley will sell bright Italian queens this season at 60c each, \$7.00 per dozen. Safe arrival guaranteed. W. W. Talley, Rt. 4, Greenville, Ala.

QUEENS OF QUALITY—I am booking orders for early queens now. Three-banded Italians only. Circular free. J. I. Banks, Dowelltown, Tenn.

ITALIAN and Carniolan Queens, the earliest and best to be had of either race. My circular and prices are free. Grant Anderson, San Benito, Tex.

ITALIAN QUEENS for sale this season at 60c each; \$7.00 per dozen. Ready April 15. Safe arrival guaranteed. T. J. Talley, Rt. 3, Greenville, Ala.

PLACE your order early to insure prompt service. Tested, \$1.25; untested, \$1.00. Italians and Goldens. John W. Pharr, Berclair, Tex.

QUIRIN's superior improved queens and bees are northern bred, and are hardy. Orders booked now. Over 20 years a breeder. Free circular. H. G. Quirin, Bellevue, Ohio.

GOLDEN Italian Queens, about June 1. Untested, 75c; half doz., \$4.00. Tested, \$1.25. Pure mating guaranteed. J. I. Danielson, Rt. 7, Fairfield, Iowa.

TRY my best bright yellow queens. They are beautiful and good honey getters; 60c each or \$7.00 per dozen. Safe arrival and satisfaction guaranteed. M. Bates, Rt. 4, Greenville, Ala.

THREE BAND and Golden Yellow Italian Queens. Untested, one, \$1.00; six, \$4.50. Tested, \$2.00, ready April 15. Safe arrival. Send me your orders early. E. A. Simmons, Greenville, Ala.

THE SECRET OF SUCCESS is in having your colonies headed by good prolific queens. We have good Italian queens at 75c for untested and \$1.00 for tested. G. W. Moon, 1904 Adams St., Little Rock, Ark.

QUEENS, improved three-band Italians bred for business, June 1 to Nov. 15. Untested Queens, 75c each; dozen, \$8.00; Select, \$1.00 each; dozen, \$10. Tested Queens, \$1.25; dozen, \$12. Safe arrival and satisfaction guaranteed. H. C. Clemons, Boyd, Ky.

FOR SALE—After June 15 Golden Italian queens. Strictly northern bred and hardy. Fine honey gatherers and gentle. No disease. Safe arrival guaranteed. Untested, \$1.00; 6, \$5.00; 12, \$9.00. Tested queen after July 15, 50c each extra. J. Stuart Scofield, Kirkwood, N. J.

GOLDEN and 3-banded Italian and Carniolan queens, ready to ship after April 1st. Tested, \$1.00; 3 to 6, 95c each; 6 to 12 or more, 90c each. Untested, 75c each; 3 to 6, 70c each; 6 or more, 65c. Bees, per lb., \$1.50; Nuclei, per frame, \$1.50. C. B. Bankston, Buffalo, Leon Co., Tex.

IF YOU NEED a queen for that queenless colony, you want it as soon as you can get it. We can furnish tested queens by return mail, \$1.00 each. Three-band Italians, bred for business. No disease. Satisfaction guaranteed in every case. J. W. K. Shaw & Co., Loreauville, La.

FAMOUS North Carolina Italian Queens for sale. Reared from Howe's best breeders. Mated with Root's, Moore's, Davis' select stock. Free from disease. Untested, one 75c; per doz., \$7.50. Select untested, one, \$1.00; per doz., \$9.00. Tested, \$1.25; select tested, \$1.50. Breeders, \$3.00 and \$5.00. H. B. Murray, Liberty, N. C.

PHELPS' Golden Italian Queens combine the qualities you want. They are great honey gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; Tested, \$3.00; Breeders, \$5.00 and \$10. C. W. Phelps & Son, 3 Wilcox St., Binghamton, N. Y.

I CAN supply you with Golden or three-banded Italian queens. Tested, \$1.00 each; six or more, 95c each; untested, 75c each; six or more, \$5c each. Bees, per pound, \$1.25. Nuclei per frame, \$1.25. Write for prices on large orders. Everything guaranteed. I. N. Bankston, Buffalo, Tex.

THREE-BANDED Italian Queens ready April 1, of an exceptionally vigorous and long-lived strain of bees. They are gentle, prolific, and good honey gatherers. Untested, \$1.00; 3, \$2.50; 6, \$4.50; 12, \$8.00. Tested, \$1.25; 6, \$6.50; 12, \$12. Jno. G. Miller, 723 So. Carrizo St., Corpus Christi, Tex.

NOTICE—R. A. Shults will sell Italian queens in the season of 1915. Untested, \$1.00. After June 1, 75c; tested, \$1.50; select tested, \$2.00. Breeders, \$5.00. Bred from Moore and Doolittle stock. R. A. Shults. R. F. D. 3, Cosby, Tenn.

FROM SOUTHERN NEW MEXICO—My yards will be able to furnish you bees by the pound at an early date. No disease. Satisfaction must be yours. Write at once. I can surprise you on prices. Established in 1914. S. Mason, Hatch, New Mexico.

FOR SALE—Queens, three-band Italians. Extra good strain. Their bees are great hustlers. Only drones from selected queens near mating yard. Untested, one, \$1.00; 6 for \$4.50; 12, \$8.00. Ready June 15. When ordering, state time within which queens are wanted. They will be mailed promptly or money returned. D. G. Little, Hartley, Iowa.

CALIFORNIA QUEENS, Nuclei and Bees bred from the best Doolittle stock, ready for shipment at once. Queens, untested, 75c; dozen, \$8.00. Tested, \$1.25; dozen, \$12. Mismated, one year old, 90c; dozen, \$5.00. Tested, one year old, 75c; dozen, \$8.00. Nuclei, 2-frame, \$1.50; 3-frame, \$2.25; 5-frame, \$3.00; 10-frame colony, \$4.50. Bees by pound, ½ lb., 75c; one lb., \$1.00. Add prices of queens desired to all above prices of bees and nuclei. Delivery guaranteed. No disease. Spencer Apiaries Co., Nordhoff, Calif.

500 SAMPLE QUEENS at 40c on first 500 orders. Moore's Strain Leather Colored Italians. Write for particulars and prices in quantity. April and May orders booked now on 10 percent deposit. Orders filled promptly or notice given when such deliveries can be made. Regular prices: Untested queen, 75c; six, \$4.25; twelve, \$8.00. Timberline Riggs, breeder. Ogden Bee & Honey Co., Ogden, Utah.

"A GUIDE POST"—A guide post that directs to a big honey crop is good queens. We have them, untested goldens or three-band Italians, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Lots of 100 or more, 60c each. Tested queens, \$1.50 each. Best breeders, \$5.00 each; full 8-frame single story colonies, \$5.00 each. Safe arrival and good satisfaction. Best new crop orange blossom extracted honey; fine indeed. Write for prices. Rialto Honey Co., Box 73, Rialto, Calif.

I WILL again sell bees and queens shipped from north Louisiana in April. In cages, 1 pound, \$1.50; 2 pounds, \$2.50. In nuclei, 2 comb, \$2.75; 3 comb, \$3.75. Six or more at one time to one address 5 percent discount. 1914, or young Italian queens for business, \$1.00 extra. Queens only at \$1.25. Shipments will be put up by experts under my personal supervision. I will try to please. A receipt in good condition will be taken. Part payment will secure the order. Bees shipped from Jonesville and Black River, La. H. C. Ahlers, Jonesville, La.

GRAY CAUCASIANS—Their superior qualities are early breeding; great honey gatherers; cap beautifully white; very prolific; very gentle; great comb builders; not much inclined to swarm; give better body to honey; not much inclined to rob; very hardy; never furious; good winterers; everywhere the best all-purposed bee. Give me a trial order for a queen or nucleus. Prices on application. J. J. Wilder, Cordele, Ga.

American Bee Journal

HAPPY!—If you wish to be happy just send me an order for some of my beautiful queens. Untested, \$1.00 each; \$4.25 for six; \$8.00 a dozen. Tested, \$1.50 each. Full 8-fr. colonies, single stories with untest. queens, \$5.00; pounds of bees in light combless shipping cases, \$1.25 without queens. Any queens you may desire with these can be sent with bees at prices above. Discounts on large orders. Safe arrival and good satisfaction to all customers. Only best three band and golden Italians. J. B. Atchley, Patton, Calif.

THREE-BANDED ITALIAN QUEENS.—Before July 1: Untested, 1, \$1.00; 6, \$5.00; 12, \$10.00. Select untested, 1, \$1.25; 6, \$6.25; 12, \$11.00. After July 1: Untested, 1, 75¢; 6, \$4.00; 12, \$7.00. Select untested, 1, \$1.00; 6, \$5.00; 12, \$8.50. Nuclei, 1-frame, 75¢; 2-frame, \$1.50; 3-frame, \$2.25. To each nucleus, add price of Queen. Our Queens are reared in a locality where there has never been disease, from strong vigorous colonies. The apiary is under most competent supervision. Safe arrival and satisfaction guaranteed.

Horner Queen & Bee Co., Ltd.,
Youngsville, Pa.

HAVE YOU HEARD of the famous Atchley queens? If not, you will surely be pleased not only to hear of, but to use these queens. James Whitecotton, of Laguna, Uvalde Co., Tex., says: "I am glad you have gone back to rearing queens again. I have been buying Atchley queens for 25 years, and the best queens I ever bought came from you." Only the best three band and goldens. Untested, \$1.00; \$4.25 for six; \$8.00 a dozen. Tested, \$1.50 each. Bees by the pound and full colonies on application. I can handle any sized order. Safe arrival with satisfaction and promptness my motto. A. T. Atchley,
Highland, Calif.

MOORE'S STRAIN and Golden Italian queens. Untested, one, \$1.00; 6, \$5.00; 12, \$9.00; 50, \$35. Carniolan, Banat and Caucasian queens. Untested, one, \$1.25; 6, \$6.00; 12, \$10. Tested, any kind, one, \$1.50, 6, \$8.00. Choice breeding queens of any kind, \$5.00 each. Nuclei, 2-frame, \$2.50; 3-frame, \$3.25; 10-frame, full colony, \$5.00. Bees by the pound, \$1.25. Add price of queens desired to all above nuclei and bees. Comb foundation, Circular free. Genuine orange blossom and mountain sage honey, one gallon can, \$1.20; five gallon can, \$5.50; case, two five gallon cans, \$10. Samples, 10c each. Everything securely packed or crated and delivered at Orange depot. Safe arrival and satisfaction on everything we ship guaranteed.
W. H. Rails, Orange, Calif.

HONEY AND BEESWAX

FOR SALE—Fancy orange-blossom honey. Send for price list. James McKee,
Riverside, Calif.

WANTED—Comb, extracted honey, and beeswax. R. A. Burnett & Co.,
6A12t 173 S. Water St., Chicago, Ill.

FOR SALE—Extracted honey, basswood and light amber in 10-lb. pails. Can be sent by parcel post. Write for prices. E. E. Mott, Glenwood, Mich.

FOR SALE Nice, thick, well ripened amber extracted honey; mild flavored; two 60-pound cans to a case. Single cans, 8c; by case, 7c; ten case lots, 6½c per pound. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Spanish-needle, hearts-ease No. 1 light comb, \$3.00 per case; fancy, \$3.25. Mixed fall comb, \$2.50 to \$2.75 a case; 24 Danz. sections to case. Extracted, 120-lb. cases 9c per pound. W. A. Latshaw Co.,
Carlisle, Ind.

EXTRACTED HONEY—Best Water White and nice Amber Alfalfa in 60-lb., 30-lb., and smaller tins. State quantity you want. Special prices on ton lots or over. Several car-loads just in. Dadant & Sons, Hamilton, Ill.

SUPPLIES.

FOR SALE—Cedar or pine dovetailed hives, also full line of supplies including Dadant's foundation. Write for catalog. A. E. Burdick, Sunnyside, Wash.

BEE SUPPLIES, all kinds, low prices. Catalog free. J. W. Rouse, Mexico, Mo.

BEEKEEPERS and fruit growers let us send you our 1915 catalog. J. A. Guyer & Sons, Marion, Ind.

BROTHER BEEKEEPERS, send for my new prices on Supplies. I can save you money. Beeswax wanted. W. D. Soper,
Jackson, Mich.

BEE-KEEPER, let us send our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. White Mfg. Co.,
4Atf Greenville, Tex.

FOR SALE—I am selling foundation and paying the freight to your station anywhere in La. Root's goods for sale. Send me your orders. Am paying 28c cash for wax or 30c in trade delivered here. J. F. Archdekin, Big Bend, La.

STANDARD DOVETAILED 'HIVES shipped direct from factory in Iowa. Fine 8-frame for \$6.00. Hoffman frames, \$2.75 per hundred. Plain sections, \$4.20 per M. Write for prices on what you need—a full line.

The Stover Apiaries, Mayhew, Miss.

LEWIS BEEWARE—Root's extractors, smokers, etc. Dadant's Comb Foundation. Large stock always on hand for prompt shipment. Western beekeepers can save money by patronizing the oldest co-operative association of beekeepers. Illustrated catalog free. The Colorado Honey Producers' Ass'n.
Denver, Colo.

CALIFORNIA redwood hives, one story complete with 10 frames, \$1.00; supers with 9 frames, 50c. Discounts, 25, 10 percent, 100, 20 percent. Extracted honey cases, 65c. Dadant's foundation delivered by prepaid freight anywhere. Medium, 52c; thin, 54c; surplus, 50c; bee-supplies at 5 percent off any manufacturers' prices. Catalog free. Spencer Apiaries Co., Nordhoff, Calif.

POULTRY

FOR SALE—Wild Mallard Duck—12 eggs, \$3.00. Ashmead, Williamson, N. Y.

PARTRIDGE ROCK EGGS for hatching, \$3.00 per 15. Neville Poultry Farm, Keweenaw, Mich.

FOR SALE—R. C. and S. C. brown Leghorn eggs. Great layers. Farm raised: 15 for \$1.25, postpaid. G. S. Young, Rt. 1, Munson, Pa.

FOR SALE

FOR SALE—50 colonies of bees in new 10-frame hives. Clyde Marquand, Deronda, Wis.

PANGBURN wants you to write for illustrated circular describing his new foundation fastener, the fastest, easiest handled machine on the market. Invented and mfg. by W. S. Pangburn, Center Junction, Iowa.

FOR SALE—Honey cases (used) containing two 60-pound cans in good condition in quantities of one hundred. 20 cents per case. Smaller quantities 25 cents. Send us your orders. G. A. Reuter,
411 Rush St., Chicago, Ill.

FOR SALE OR EXCHANGE for honey or bee-supplies, 1912 8 H. P. American twin cylinder motor cycle. Cost \$240. What's your offer? Emil E. Nelson, Route 2, Renville, Minn.

MISCELLANEOUS

How many people are there who really know what good Queen Bees are? We suspect that thousands of beekeepers know, so we claim to know, and can sell good queens to all who wish them. The well known three-bands and Goldens. Untested, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Tested, \$1.50 each. Full eight-frame hives with untested queens, \$5.00 each. Bees in pound packages, \$1.25 f. o. b. Riverside. Promptness and honest treatment, and of course satisfaction and safe arrival. Do not return dead queens to us; just state it on a postal, and we will return one at once.

Golden Rule Bee Co., Riverside, Calif.

WANTED

WANTED—Bees in lots of 25 to 300 colonies; any style hive. Within 250 miles of Detroit. A. W. Smith, Birmingham, Mich.

WANTED—Reliable man for 250 colonies run for comb and extracted honey; permanent job. Would prefer man with orchard experience. Write: Hawthorne Farms Co., Barrington, Ill.

3-BAND ITALIAN QUEENS

FOR SALE AFTER MAY 1

This stock of bees does get the honey when there is any to get. One untested, \$1.00; 6, \$5.00; 12, \$10.50; 25, \$25.50; 50, \$46. One lb. of bees with queen, \$3.00; 2 lbs. with queen, \$5.00. All queens are mated and laying before sending out. No tested queens for sale. The above prices must be doubled when sending queens to foreign lands. If queen arrives dead, send it back and get another or the money. No checks accepted in any case. (My former address was Cato, Ark.)

Address, J. B. ALEXANDER
R. R. No. 1, Jacksonville, Ark.

CARNIOLAN QUEENS

in season. Orders booked now for queens and bees by the pound. A few 8-frame colonies for April delivery. Price \$0.00 f. o. b. here.

Ask for our Paper "Superiority of the Carniolan Bee". It's free. Get acquainted with the merits of these bees before placing your orders. Carniolans stand cold winters best, breed up fast in spring, are very gentle, and the best of honey-gatherers.

ALBERT G. HANN, CLINTON, N. J.

CLOSING OUT SALE

OF BEE BOOKS, VEILS AND SMOKERS

I have some of the following that I would like to close out at once, and on which I make reduced prices, all postpaid:

"Langstroth on the Honey-Bee" (Latest edition, \$1.20).....	\$1.00
"Songs of Beedom" (10 bee-songs—25c).....	.15
"Honey-Money Stories" (25c).....	.15
"Pearce's Method of Beekeeping" (50c).....	.30
Hand's "Beekeeping by 20th Century Methods" (50c).....	.30
Wilder's "Southern Bee-Culture" (50c).....	.30
Muth Bee-Veil (75c).....	.60
Danzenbaker Bee-Smoker (\$1.00).....	.80
	\$3.60

Or all the above in one order to one address for only \$3.00. (The retail price of the bunch is \$4.95.) Address,

GEORGE W. YORK, SANDPOINT, IDAHO

American Bee Journal

IT'S A LONG WAY TO TIPPERARY

But it's a short way to success if your colonies are headed with queens from **The J. E. Merchant Bee and Honey Company**, breeders of the highest grade of Island-bred Italian Queens.

Pure mating guaranteed. Prices as following:

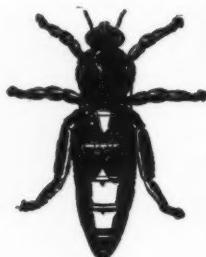
	1	6	12	1-lb. Bees	1	6	12
Untested queens.....	\$1.50	\$7.50	\$12.00	1-lb. Bees.....	\$1.50	\$7.50	\$12.00
Tested.....	2.00	10.50	18.00	1-lb. ".....	2.00	10.50	18.00
Select tested.....	3.00	15.00	24.00	2 lbs. "	3.00	15.00	27.50
Breeders.....	\$5.00 and 10.00			3 lbs. "	4.00	21.00	36.00
Extra select breeders. 25.00				5 lbs. "	5.50	27.50	50.00

These prices are without queens.

We will ship from Canton, Ohio, after June 1.

We guarantee safe delivery and a square deal. **Watch us grow.**

The J. E. Merchant Bee & Honey Co.,
Apalachicola, Florida



Untested Italian Queens

For a number of years we have been furnishing Italian queens to our customers, and their words of encouragement have led us to believe that our services are appreciated. Being in touch with many large breeders, we are in a position to furnish untested queens of first quality with but little delay. We can furnish either ordinary leather-colored or bright yellow queens as preferred. Prices as follows:

BEFORE JULY 1.		
1 untested.....	\$1.25	Tested Queens
b ".....	5.50	\$1.75 each
12 ".....	10.00	
AFTER JULY 1.		
1 untested.....	\$1.00	Tested Queens
6 ".....	4.50	\$1.50 each
12 ".....	8.50	

Special prices on larger lots on application.

CAUCASIAN QUEENS

There has been much inquiry for this race of bees. We can fill orders for these queens at the same rates as above.

INTRODUCTORY OFFER

As an introductory offer, we will send you an untested Queen together with a year's subscription to the American Bee Journal for only \$1.50 (10 cents extra to Canada). Add 50 cents if Tested Queen is wanted.

We also can furnish nuclei, bees by the pound and full colonies. Prices on request.

Orders are booked as soon as received and filled in rotation. When ordering, however, state approximate date on which you wish queens to come forward, so that we may fill accordingly. Purity and safe arrival guaranteed.



American Bee Journal, Hamilton, Illinois.

NEW ENGLAND BEE KEEPERS
Everything in Supplies
New Goods. Factory Prices.
Save Freight and Express Charges
CULL & WILLIAMS CO.,
Providence, R. I.

Help Advertise Honey
By Putting

EAT HONEY

Stickers on all letters, packages, shipments, etc. Printed in bright red, already gummed. Price postpaid, 500, 20c; 1000, 35c.

American Bee Journal, Hamilton, Illinois

"Scientific Queen-Rearing"

No other book compares with this one written by Mr. G. M. Doolittle. He is an expert in the business. It tells just how the very best queens can be reared. Bound in cloth. By mail, \$1.00; or with the American Bee Journal, one year—both for \$1.60. In leatherette binding, 75 cents, postpaid; or with the American Bee Journal one year—both for \$1.25. Send to the American Bee Journal.

HONEY AND BEESWAX

CHICAGO, March 17.—The market is not active on either comb or extracted. Of the former, there is very little offered and prices remain without material change, ranging from 17@28c per pound for the best grades of white comb, and the ambers are from 2@3c per pound less. Extracted white ranges from 7@9c per pound, with ambers at from 6@7c per pound, with both kinds selling at about 1c per pound higher in a small way where the quality is of the best. Beeswax is steady at from 30@31c per pound.

R. A. BURNETT & CO.

INDIANAPOLIS, March 17.—The demand for extracted honey is good, although there is very little doing in comb honey, but since our last report comb honey has been moving considerable better. The prices remain about the same, as quoted in our last report. No. 1 choice white comb is selling at \$3.50 to \$4.00 per case; No. 2 at \$3.25 per case. Fancy amber at \$3.60. Best grades of extracted are bringing 9@10c. We are paying 28c cash or 31c in trade for pure average wax delivered here.

WALTER S. PODUER.

KANSAS CITY, Mo., March 16.—Our market is almost bare of comb honey. The demand is good. The supply of extracted honey is large, and the demand light. We quote No. 1 white comb honey, 24 section cases, \$3.25 to \$3.50; No. 2, \$3.00. No. 1 amber, \$3.25; No. 2, \$2.75 to \$3.00. Extracted, white, per pound, 7@8c; amber, 6@7c. No. 1 beeswax, 28c; No. 2, 25c a pound.

C. C. CLEMONS PRODUCE COMPANY.

LOS ANGELES, Mar. 15.—Fancy white honey is now very scarce, but we fortunately have to offer one straight car of fancy water white sage honey at 7@8c. Possibly with offer in hand we could secure a car of white alfalfa honey at 6c, but we are not sure of this. A good supply of light amber alfalfa honey remains unsold, and the market on this grade seems to have reached bottom, being the lowest for many years. The majority of the holders are unwilling to sell at price now obtainable, and prefer to hold for a better figure. We think we could secure a limited quantity at 3@4c. Light amber sage is well cleaned up, but we know of one car to be had for 4@5c a pound. We would endeavor to execute orders at the above named prices.

HAMILTON & MENDERSON.

NEW YORK, March 18.—Regarding the condition of the honey market, there are no changes whatsoever from the last report. The demand is very light for all grades, and there is a plentiful supply at prices ruling about the same as our last quotations.

HILDRETH & SEGELKEN.

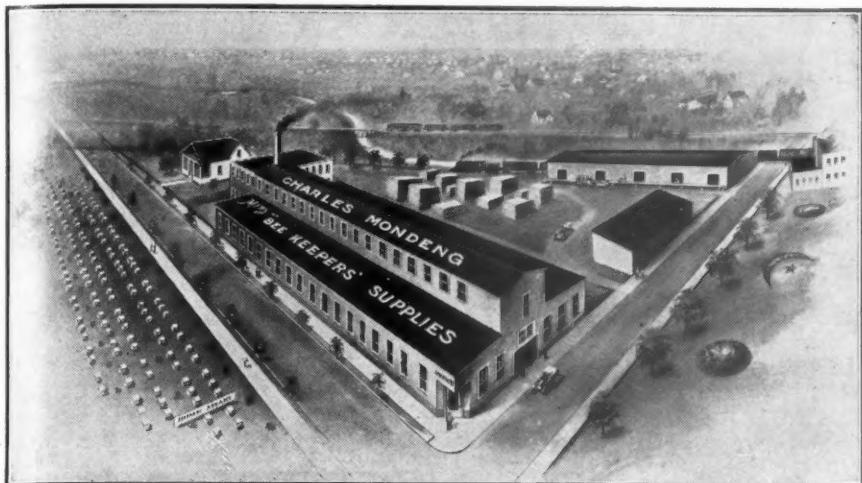
CINCINNATI, March 18.—Conditions in general look more favorable. The demand for extracted honey is improving, however the demand for comb honey is hardly satisfactory. No. 1 white comb honey is selling at \$3.50 to \$4.00 per case. White clover extracted, sage, and orange blossom from 8@10c a pound. Southern amber and the like have been selling from 5@6c a pound, according to quality and quantity purchased. We are paying 28c a pound delivered here for choice beeswax and 30c a pound in trade.

THE FRED W. MUTH CO.

DENVER, March 11.—We have nothing to offer in comb honey, but have a good stock of first-class extracted honey, which we are offering at the following local jobbing prices: White, 8@8@9c per pound; light amber 8@8@9c, and amber strained, 7@8c. We buy beeswax and pay 28c per pound in cash and 30c per pound in trade for clean yellow beeswax delivered here.

THE COLO. HONEY-PRODUCERS' ASS'N.
Frank Rauchfuss, Mgr.

American Bee Journal



MILLIONS OF Fine Sections

Thousands of Hives, the best ever made of white pine lumber, ready for prompt shipment. Don't miss them. My goods are guaranteed. A trial order will prove it. 200 colonies of Adels and Carniolans. If you want a square deal, send for my Catalog and Price List. I will pay highest market price for Beeswax in trade.

CHARLES MONDENG
146 Newton Ave. North
Minneapolis, Minnesota

The Beekeepers' Review

The Review is now owned and published by the beekeepers themselves; in fact, it is the honey producers' own magazine, wholly devoted to their especial needs. We buy supplies for our subscribers, and help them to sell their honey without cost, there being a department where names of those having honey for sale are listed free of charge. Also, if you have bees for sale, there is a department where we list you without a cent's cost. If you want to buy honey, there is a department where you can be listed without charge. Other departments contemplative. If you have beeswax you want made into foundation, we save you money on that. The fact is, the Review's main object of existence is to help its subscribers. As we own it ourselves, why shouldn't it be?

We are just making a special offer to new subscribers, in as much as we are giving away the last eight months of 1914 to all new subscribers for 1915. Those back numbers contain many valuable contributions not found in any other publication. Just listen to a few, not having space here to mention them all: Beginning with the May number Mr. Adrian Getz gives his experience on preventing swarming; size of entrance to use; home rearing of queens; short cuts in finding queens and other subjects. You should read this. Then there is a two-page article by Wilder, describing his management of 3000 colonies in 50 yards. The fact is, there are nine articles from Mr. Wilder in those back numbers and more to follow. Those articles are not published in any other magazine. You should read them. Then there are several articles from Pearce, telling of his system of managing bees in the production of comb honey without swarming, with only two visits a year. Would you like to know how it is done? Then there are field notes from Michigan, Tennessee, Iowa, Colorado, telling of things done under different conditions. Those will interest you. Then there is the Secretary's corner; there the National Secretary tells his experience, and "boosts honey." These are just a few of the good things you will receive for your dollar by subscribing for The Review. Besides all this, you will get ALL the fine articles written for the National convention at St. Louis in 1914, and during this year all the papers read at the Denver meeting this month will be published in The Review, and nowhere else. The Review is mighty fortunate in having so much available material in sight. You cannot know too much about your business, and these 20 numbers we are offering you for a dollar will help you wonderfully in your future beekeeping. Address your own paper.

The Beekeepers' Review, Northstar, Mich.

QUICK GERMINATION SWEET CLOVER SEED

Get our **Specially Treated Hullled Seed** which will germinate 90 percent to 98 percent. A new process. Also causes seed to sprout quickly. Insures a better stand with less seed per acre than ordinarily used. Samples on application.

	1 lb.	10 lbs.	25 lbs.	100 lbs.
White Sweet Clover (unhulled, hand screened).....	.20c	\$1.80	\$4.00	\$15.00
" " " (unhulled, recleaned).....	.25c	2.25	5.00	18.00
Yellow " " (hulled, recleaned).....	.35c	3.00	6.75	25.00
Alsike Clover Seed (hulled).....	.25c	2.00	5.50	20.00
			4.50	17.00

SPECIAL PRICES ON LARGE QUANTITIES

The recleaned seed is machine cleaned, and is free from chaff, dirt, and light seed. All seed f. o. b. Hamilton, or Keokuk, Iowa at the above prices. No charge for bags.

DADANT & SONS, HAMILTON, ILLINOIS

YELLOW SWEET CLOVER—Many people fail to recognize the value of Yellow Sweet Clover as a honey plant. The fact that it blooms two weeks earlier than the White variety makes it especially valuable to the beekeeper. Be sure however, to get the *Melilotus officinalis* as quoted above.

Queens and Bees

Our queens and bees are from the best imported Italian stock. Unexcelled for gentleness and honey. Ready April 1.

One untested queen, 75c; 6, \$4.25; 12, \$8.00. $\frac{1}{2}$ lb. of bees, 90c; 1 lb., \$1.25. If a queen is wanted with the bees, add the price. Safe arrival and satisfaction guaranteed.

N. FOREHAND & CO.,
Ft. Deposit, Ala.

DO YOU READ THE

Progressive Poultry Journal?

If not, send for a Sample Copy. An up-to-date poultry paper. Every Beekeeper should keep Poultry. Write for advertising rates.

Progressive Poultry Journal Publishing Co.,
MITCHELL, SOUTH DAKOTA

We Have Decided

Not to change the prices for 1915, and will not mail new catalogs to our customers unless we are requested. Order from last catalog. Send us list of goods wanted for best prices. No one can beat us. We have been in business since 1899. Reference, any mercantile agency.

H. S. DUBY & SON, St. Anne, Ill.

Leather Colored Italians

About April 1st. I will again be ready to mail untested queens of my fine strain of Italians; I breed no other race. I also have choice tested and breeding queens at all times. Get your orders booked early.

I rear only the kind of queens that are sought for and demanded by successful beekeepers. Get your orders booked early. Cash with order. Satisfaction guaranteed. Untested queens, \$1.00 each; \$9.00 per doz.; \$75 per 100. Choice tested, \$1.50 each; \$15 per doz. Breeders, \$3.00 to \$5.00 each.

C. S. ENGLE
Beeville, Bee Co., Texas

Weber Service!

At this time of the year it is especially important that the Beekeeper be able to secure his supplies without delay. With the promise of an early spring and a heavy honey-flow this is doubly important.

Root's Goods and Weber Service IS A COMBINATION THAT IS HARD TO BEAT

We have a reputation for prompt delivery and quick service. Being located in Cincinnati, the gateway of the South, we can save you considerable in transportation charges.

Our 1915 catalog will be promptly mailed to any one interested.

**C. H. W. WEBER & CO.,
2146 Central Avenue, Cincinnati, Ohio**

A Glimpse Behind the Scenes

While the majority of Beekeepers are familiar with the Root honey extractors, smokers, wax presses, foundation mills, swarm catchers, queen excluders, queen and drone traps, etc., and have used

these for many years, there are not many who have had the opportunity of seeing these manufactured, and they do not, therefore, realize the number of operations required before the finished product is finally turned out and the many and costly machines needed. For the benefit of these we show the accompanying illustration, showing only a corner of one of the three Departments



Partial view of the machine shop, one of the three Departments devoted to metal goods

devoted entirely to the manufacture of this class of goods, which will give the reader a faint idea of some of the machinery employed in the manufacture of our metal goods, which have achieved a world-wide reputation, so much so that today the Root Honey Extractor is used almost exclusively all over the world, while nearly all of the foundation now used is made with our foundation mills.

Root's Goods are a synonym for perfect workmanship and the best of raw material.

THE A. I. ROOT COMPANY, Executive Offices and Factory, MEDINA, OHIO
—Branch Offices—

New York, 139-141 Franklin St.
Philadelphia, 8-10 Vine St.
Chicago, 215 West Ohio St.
St. Paul, 850 Payne Ave.

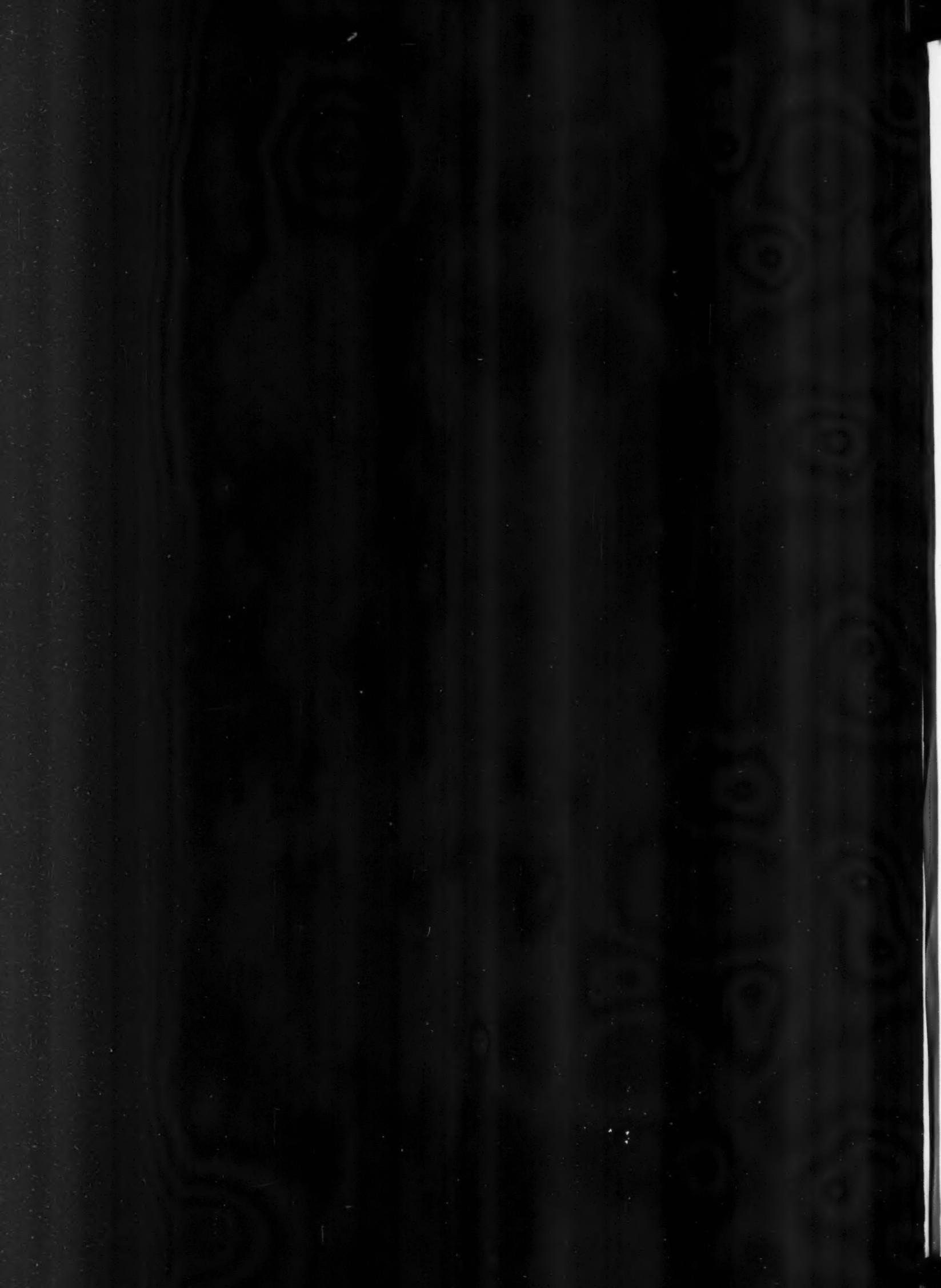
San Francisco, 58 Sutter St.
Des Moines, 915-917 Walnut St.
Syracuse, 1631 West Genesee St.
Indianapolis, 859 Massachusetts Ave.

Zanesville, Ohio.
Mechanic Falls, Maine.
Washington, 1100 Maryland Ave., S. W.
Los Angeles, Calif., 948 E. Second St.

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American Bee Journal

MARSHFIELD GOODS

BEE-KEEPERS :—

We manufacture Millions of **Sections** every year that are as good as the best. The **CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

We also manufacture **Hives, Brood-Frames, Section-Holders and Shipping-Cases.**

Our Catalog is free for the asking.

Marshfield Mfg. Co.,

Marshfield, Wis.



EARLY ORDER DISCOUNTS WILL Pay You to Buy Bee Supplies Now

30 years' experience in making everything for the beekeeper. A large factory specially equipped for the purpose ensures goods of highest quality. Write for our illustrated catalog today.

LEAHY MFG. CO., 90 Sixth St., Higginsville, Missouri

START THE SEASON RIGHT

By using **Dittmer Foundation** the bees like it for it's made to just suit them, and is just like the Natural Comb they make themselves.

Send for prices on having your Beeswax made into Comb Foundation, which includes all freight charges being paid.

All other Supplies in stock

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